THE LANCET.

VOL. II.] LONDON, SATURDAY, JULY 25, 1840. [1839-40.

LECTURES BY M. DE BLAINVILLE ON COMPARATIVE OSTEOLOGY.

THE

COMPARATIVE OSTEOGRAPHY

OF THE

SKELETON AND DENTAR SYSTEM

IN THE FIVE CLASSES OF

VERTEBRAL ANIMALS,

RECENT AND FOSSIL.

BY M. H. M. DUCROTAY DE BLAINVILLE,

Member of the Institute of France.

WITH GRAPHIC DELINEATIONS BY M. WERNER;

EDITED (FROM THE FRENCH) AND

ADDITIONALLY ILLUSTRATED

WITH NUMEROUS NOTES, OBSERVATIONS,

AND DRAWINGS,

BY ROBERT KNOX, M.D.,

Edinburgh; Corresponding Member of the French Academy of Medicine, &c. &c.

III. *Dentar System of the Aye-Aye.*

As it is upon this part of the organisation that the greatest stress has been laid for the arrangement of the Aye-Aye with the Rodentia, and as, in fact, it is this which offers the most striking apparent relations with them, we ought here, the more particularly, to point out the differences which actually exist.

In the dentar apparatus we must consider the number of the teeth, the combination of different kinds, their general arrangement, and, lastly, their form.

In respect to number and to different kinds, it cannot be denied that there exists really a certain relation between the Aye-Aye and the Rodents. In fact, they have both but *two* kinds of teeth, viz., molar and incisive (?) separated by a considerable space or bar, without canines. In respect to this interspace or bar, we have already remarked that in both jaws the toothless edge is sharp, as if, at a less advanced age, there had existed teeth which had fallen out, and the alveoli had become obliterated by the closing in of the two tables of the bone; whilst in the Rodents this interspace or bar is always rounded.

The molar teeth are four in number, on each side of the upper, and three only on each side the lower jaw; this peculiarity which is constant in the Galagos, the Loris and Tarsiers, is but seldom observed in the Rodents.

The incisives are two in number, in each jaw; both are terminal, and are regarded as an arrangement characteristic of the order Rodentia.

The molars, in their arrangement in the Aye-Aye, appear to be implanted vertically, and disposed in parallel lines, that is to say, that the two posterior in either jaw are not more distant from each other than the two anterior; whilst in the Rodents the superior molar teeth are always implanted obliquely, in such a way that their corona looks outwards, whilst the corona of the molars in the lower jaw looks inwards.

In respect to the *form* and structure of the four upper molars, which are all oval and oblique, the last but one is the largest, then the one before it, then the last one of all; and, finally, the first is the smallest of the four. Moreover, they are simple, that is to say, composed of two substances, *ivory* and *enamel*, without any replication of the enamel towards the interior of the tooth, as takes place in most of the Rodents. Unfortunately the teeth in our specimen of the Aye-Aye have been much worn, and the two largest alone present in the centre of the corona a small hole, which I imagine to have been the upper part of the cavity of the tooth, or rather, perhaps, the remains of the excavation, which existed between the four tubercles which I conjecture at one time to have been present on the corona.

Of the three molars in the lower jaw, which are much worn in our specimen, the first appears to be the largest, the last the smallest.

The incisives are especially peculiar, both in form and size, they are proportionally larger than in any true Rodent; they are compressed laterally, and are, therefore, thicker than their breadth, and represent al-

most a complete half circle, two-thirds of which are imbedded in the jaw itself, so as to pass much beyond the last molar, and to ascend into the base of the coronoid process. The projecting part is curved almost vertically to meet the cutting edge of the corresponding teeth in the upper jaw; by their sharp edges, without resting upon a basilar heel, which the lower incisives present, and as is the case also with the Rodents; hence we may suppose them to have an entirely different use from the incisives of the Rodents. We may, in fact, suppose that the Aye-Aye used them as a pair of cutting forceps, by means of which the animal cut off the bark of trees, and, perhaps, even the woody part itself, to search for the larvæ or insects which constituted its food.

Whatever be the fate of this hypothesis, which could easily be supported by an appeal to the whole apparatus of mastication, the external part of the tooth, resting against that of the opposite side, has anteriorly a thick, rounded, and convex edge, ascending vertically, and terminating by a small convex and cutting margin. The posterior or internal border is formed for its three upper fourths of a large, oval excavation, a little larger above than below, and in which it is easy to see that the ivory texture is entirely surrounded by enamel, thicker, however, before than behind; a structure which is never found in any Rodent, in whose incisives the enamel covers only the anterior surface of the tooth so as to form the cutting edge only. Thus, although we may admit that relations do exist between the lower incisives of the Aye-Aye and Rodents, it is evident also that they present important differences; it is the same in respect to the upper incisives.

The upper incisives are, in like manner, very strong, but less so than the lower, which, however, they nearly resemble in form. Deeply implanted in the incisive and maxillary bones, they show externally but a very small part of their whole length, and in structure they resemble the lower incisives; but that which especially deserves our notice is, that they are much more apart posteriorly than in any Rodent, and thus it might readily happen that at an early age there were some other intermediate incisives. Neither do they offer altogether the curve of the incisives of the Rodents. In fact, in the Rodents the anterior margin of the incisives descends almost vertically, and even looks backwards; whilst the teeth of the Aye-Aye tend rather forwards, so as to extend considerably beyond the extremity of the nasal bones. Moreover, the right tooth is more forward than the left, which would seem to show that the intermediate two incisives were not lost at the same time.

Thus to conclude, although there be in appearance more resemblance between the teeth of the Aye-Aye and the Rodents than between the Aye-Aye and the Makis, it is not to be imagined that we shall not find some day amongst the Makis evident traces of an analogous arrangement. Thus the almost horizontal inclination of the inferior incisives has already been proved to exist in the true Makis, and especially in the Tarsier of Daubenton, the animal to which the Aye-Aye bears evidently the greatest resemblance. Besides, in the Tarsier, the external pair of incisives in the upper jaw is much larger than the internal, and in the lower there is only one pair; so that to bring it up to the speciality of the Aye-Aye, it is merely necessary to admit that the four true molars or posterior have remained, and, in fact, they have the same proportions of relative size: that the two false molars had disappeared with age, or had never existed, which, however, is not so likely, but was more probable in respect to the canine; and that of the four incisives, the external, still very small, have either been cast with age, or by the excessive development of the other pair; an occurrence which is by no means extraordinary, since similar examples can be found in other mammals.*

In respect to the lower jaw, we have still fewer suppositions to make, since there exists but two incisives, and, as in the Lori, the anomaly will hold only in respect to the canine and false molars.

IV. *Of the other Parts of the Skeleton.*

Of these I have seen only the bones of the forearm; but they confirm fully every fact which the inspection of the cranium has so satisfactorily demonstrated. The forearm is, in fact, composed of two bones, perfectly distinct throughout their whole extent. The radius, rather shorter than the ulna, is nearly rounded and enlarged towards the distal extremity; its humeral or proximal extremity has a *subcrul* head, excavated as a man, without a trace of any eminence corresponding to a depression in the humerus. The articulation, with the ulna, is extensive, and the bicipital tuberosity well marked. The distal end of the radius somewhat convex anteriorly and excavated posteriorly, articulates with the ulna by a facette; it terminates in a large excavation, divided into two parts by a very small eminence; the two depressions corresponding to the scaphoid and semilunar bones of the carpus, which form, by their reunion, a kind of articular head. The ulna, extending higher than the radius, by the extent of its olecranon process, is more slender and compressed; its proximal end, larger, presents a large sigmoid humeral articular cavity or pulley, but a very small

* The hypothesis which supposes these pretended incisives to be true canine teeth, would require us to admit the fall or loss of the false molars only, and the obliteration of two pairs in the separation which the great terminal teeth leave between them.

Fig. 58.

radial cavity, and below its facette of articulation with the radius, at its carpal or distal end, the bone (ulna) ends in a kind of point extending to the outer side of the cuneiform bone, and behind the pisiform.

The carpus is composed of two rows of short bones, precisely as in the Simiadæ. The first row is composed of four bones, of which two articulate with the radius, as in the Simiadæ, but not in the Rodents, in which these two bones are replaced by one. The cuneiform bone articulates with the ulna, and the pisiform bone is, as usual, out of the row. The second row is also formed of four bones, whose arrangement is exactly that of the Simiadæ and Man. But what establishes still more the analogy between the Aye-Aye and the Quadrumana, and distinguishes it clearly from the Rodents, is, that there is a bone intermediate to the two rows, which, it is sufficiently curious to remark, touches every one of the bones of both rows, with the exception of the pisiform.

The bones of the metacarpus, which I could not see clearly,* offer nothing remarkable but their length, in which respect they again resemble the Quadrumana, but not the Rodents. Thus, all the parts of the forearm indicate strong analogies with the Quadrumana. In fact, all the articulations exhibit

Fig. 59.

* Our readers must be informed, in order to understand this passage, that M. De Blainville was merely suffered to withdraw the skin to a limited extent from off the bones of the hand, it being necessary not to destroy the stuffed skin, which is still the only one, so far as we can learn, in Europe! This is, unquestionably, a most extraordinary circumstance, and shows, in a striking manner, how few the scientific labourers in the field of natural history are. The cranium has, of course, been entirely removed from this very celebrated stuffed skin; and it now, no doubt, figures in the Paris collection with a wooden skull, by no means, according to our opinion, a good substitute. But we leave this question to be decided by the admirers of stuffed skins.—*R. Knox.*

the power of performing the motions of pronation and supination, flexion and extension, to be easily executed and extensive; the scaphoid bone is distinct from the semilunar, as in all the higher orders of Mammals, a condition which is not found in any Rodent, the Hare excepted.

When this memoir was read to the Philomatic Society, the portions of the skeleton which I have just described, were all that I possessed; but very lately, in making researches into the collection, M. Laurillard, keeper of the galleries of anatomy in the museum, put into my hands the four principal bones of the metatarsus (*Tarsus*), viz., the astragalus, os calcis, scaphoid, and cuboid, which had been withdrawn from the same stuffed skin in the zoological collection, without doubt, by the order of M. George Cuvier. Now these bones alone are sufficient to determine the place of the Aye-Aye to be in association with the Tarsiers and the Galagos; for the calcaneum and scaphoid have the same form and the same singular elongation, which induced Daubenton to give to the first of these animals the name it still bears. The figure which we have given in Plate 5 of the osteography of the Lemurs, is sufficient to prove this assertion; and thus it is truly astonishing that M. Cuvier, who had at his disposal this very tarsus, and which I, of course, had not, and along with it the forearm, the carpus, and the osseous head, which he even caused to be engraved in the two editions of the "Regne Animal" (although he most formally promised me that he would *not* do so), has still arranged the Aye-Aye with the Rodents and Squirrels, merely remarking that it forms the passage to the Makis.

Fig. 60.

V. *Of the Manners and Habits of the Aye-Aye.*

These, as the result of the organisation of this animal, very closely resemble those of the Makis. In fact, according to Sonnerat, the only observer who has seen the Aye-Aye alive, the animal is altogether nocturnal, and he compares the organ of vision, of a yellow colour, to that of the owl: now, excepting the Jerboa, this is not the case with any Rodent; whilst, on the other hand, the Tarsiers, Galagos, and most Makis, are all nocturnal. Moreover, the Aye-Aye is extremely slow and indolent, carrying the tail dependent, and not elevated as in the Squirrel, constantly asleep, and Sonnerat says, that it required to be shook several times before it would move. Now the Rodents, on the contrary, are peculiar for their great activity, which is almost inexhaustible, and especially for their agility; and this extends even to the Zemni, which is without eyes.

The Lemurs, on the contrary, are nocturnal, timid, indolent, averse to motion, and, in a word, in all respects resembling the Aye-Aye; and the Lori, on this very account, has received the name of Tardigradus.

The Aye-Aye lives on insects in the state of larva, according to Sonnerat, who remarks, however, that for the two months, during which time it lived in captivity, it partook only of boiled rice. It would seem that it searches for the larvæ under the bark of trees, or in the holes with which they are pierced, and the animal effects this by means of the long finger of his pectoral extremity, with which he also pushes the insects down his throat; a nourishment, and a mode of obtaining it, which is not met with in any Rodent.

In respect to what Sonnerat adds, that the Aye-Aye seems to burrow, this statement is more questionable, unless we admit that it does not itself make the burrow; in fact, neither the fingers, toes, or nails, are calculated for such a purpose. It would seem rather to be an animal living in trees, and its retreat must, unquestionably, be in the hollows of these.

SURGEONS ATTENDING INQUESTS.

At Highgate, on Friday, a waggon, from Hertfordshire, passed over a child, and extinguished life instantaneously. A surgeon was sent for, but of course uselessly. This gentleman, Mr. Dobson, of Hornsey, attended the inquest, which was held at the Woodman; but the Coroner (Mr. Wakley) was obliged to inform him, that as he had not been summoned, he would not be entitled to a fee. Mr. Dobson said, that the constable had told him to be at hand in case his evidence was required. The Coroner said, that the case was too palpable to need it, and his warrant expressly directed the constable in summoning witnesses to except the surgeon, for whom a *special* summons was always required. He would recommend medical gentlemen to become masters of the very brief Medical Witnesses' Act, which Act was expressly framed to prevent the unnecessary attendance of medical practitioners, at the same time that it awarded them remuneration when their evidence was really required. The Act described a particular form of summons, signed by the Coroner, without first obtaining which they would not receive either of the fees named in the Act. Formerly, surgeons were compelled to attend inquests at the call of the beadle or constable; this would be corrected if they guarded themselves by a knowledge of the form of summons. Unfortunately this was sometimes neglected, much to the inconvenience of themselves and the regret of the Coroner.—*Morning Herald.*

CLINICAL LECTURES

ADDRESSED TO THE

STUDENTS OF THE MIDWIFERY CLASS

AT THE ROYAL SCHOOL OF MEDICINE,

BIRMINGHAM,

BY

J. T. INGLEBY, M.D.,

Fellow of the Royal College of Physicians, Edin.

LECTURE X.

ON FIBROUS TUMOURS OF THE UTERUS.

(Concluded from p. 602.)

I will now advert to my own experience in support of the several statements contained in the former part of this lecture.

1st. I have said that the tumour may yield to the agency of the absorbents, unattended by any sensible change besides its gradual disappearance. The observations already made, as to the organisation of fibrous growths, will have led you to anticipate much difficulty in reducing them by medicine; indeed, the larger and firmer class of tumours, fibro-cartilaginous and nodulated and multiform tumours, are not susceptible of discussion, and it is in vain to make the attempt. The examination of the uterus, *per vaginam*, with a view of ascertaining whether the inflammatory condition of the tumour has really subsided, should be made most deliberately, lest we confound the change occasioned by the subsidence of acute inflammation, or the absorption of the serous infiltration in the cellular tissue around the tumour, with the diminution or entire absorption of the tumour itself. It more frequently happens that whilst the cellular tissue regains its healthy state, the tumour undergoes but little appreciable change. By many eminent men the disease in question is regarded as essentially incurable; but I am quite certain that fibrous tumours, which could be distinguished so plainly as to leave no possible doubt of their existence, have entirely disappeared under remedies which act in a peculiar manner upon the absorbent system. Better evidence I cannot give you.

2ndly. The specimens of large fibrous growths now before you (one of them surrounded by earthy deposit) present evidences of very slow growth; their great induration supplying abundant evidence in support of the opinion, that they must have been passive for a great length of time.

3rdly. The tumour may yield, to a great extent at least, to protracted losses of blood and other discharges. Under the circumstances of an ordinary menstrual period, almost every enlargement of the womb undergoes a temporary reduction in size, and a protracted hæmorrhage has the effect of reducing gradually, but certainly, the bulk of a fibrous tumour, until at length a very inconsiderable part of the mass remains; indeed, if the constitutional powers be sufficiently strong to withstand the discharge, the tumour cannot fail to subside; and it is only when the constitutional powers are sensibly impaired, that such an hæmorrhage becomes an object of medical treatment. In a particularly striking case of this kind, in which the size of the uterus was equal to a six months' pregnancy, the hæmorrhage was excessive for at least three years, at first only at the usual menstrual periods, but during the five months which immediately preceded its cessation it did not remit a single day. The effect of this hæmorrhage was the disappearance of the far greater part of the tumour, a very small portion of it, corresponding to the size of a hen's egg, still remaining attached to the cervix uteri, but producing no kind of inconvenience. At the time I first saw this lady she had consulted several very eminent practitioners, and had tried the usual remedies during a period of many months without relief, and no reasonable hopes of her life could be then entertained. The tumour was observed after her first and only delivery. It was hard and painful, and extended to the umbilicus; and yet under a hæmorrhage, which, in many persons, would have destroyed life, the disease was very nearly removed.

4thly. The fibrous tumour may terminate in acute inflammation and discharges of a white or purulent or grumous nature. Softening of a tumour is generally, but not necessarily, the result of pregnancy, and may or may not proceed to suppuration. It may be either very limited or extend to the fibrous tumour, generally commencing in its centre, and progressively disorganising its component parts. Inflammatory action, merely in small-sized tumours, usually pervades the entire mass, and extends to the adjacent cellular tissue. Let us suppose the existence of a defined, moderately-sized tumour in the womb. From some cause it inflames—the neighbouring portion of the organ, say the cervix, which had been previously healthy, becomes intensely painful when touched, and so much swollen, as to fill up the pelvic cavity, and interrupt the discharges both from the bladder and rectum. The effect of a few hours' inflammatory action in increasing the swelling is remarkable, and very characteristic of phlegmon. The swelling is moderately firm, diffused, smooth, and easily distinguished by a practised hand, from the defined, unyielding, and knobby character of a small fibrous growth. The hardness continues to increase so much, as to afford no indications of the presence of a fluid formation. After a time, however, the swelling

subsides, accompanied with an alleviation of pain. Sometimes the relief is sudden, and follows the discharge of a quantity of purulent fluid usually formed in the cellular tissue, and not in the fibrous enlargement. On the complete subsidence of the inflammation, the tumour will be found much diminished in size, but may still plainly be felt. GRUMOUS DISCHARGES.—By this term, I mean a fluid having very much the colour and consistence of chocolate, or the contents of an unhealthy and imperfectly suppurated boil. The discharge, which is inodorous, does not coagulate, and seems to consist partly of venous blood and partly of a portion of the tumour itself, in a state of pulp or solution, and intimately connected with the vessels opening on the lining membrane of the womb. The discharge comes away so gradually, that several weeks may elapse during its continuance; and the subsidence, if not the disappearance of the tumour may with much confidence be anticipated. A suppurating tumour in that portion of the womb which lies above the vagina, may be discharged either by the rectum or through the abdominal parietes. In two instances, which I have seen, the tumour presented at the groin and the contents of the abscess were discharged by puncture. Both patients recovered. In one of these, however, a large and exceedingly painful tumour reappeared, about two years afterwards, in the upper and anterior part of the cervix uteri (the same situation as before), and subsided gradually under a thick chocolate-coloured discharge, *per vaginam*. In another case, a discharge of a dark inodorous paste-like secretion, with a deposit like gunpowder, took place both from the vagina and rectum, during the middle months of pregnancy. The tumour was situated in the lateral and posterior part of the cervix uteri; and severe constitutional distress, even to coffee-ground vomiting, came on, and threatened the destruction of life. The tumour is reduced in size since the patient's delivery, but is still large, very tender to the touch, and severely affects the nerves of the lower extremities, so as to impede walking. Genuine pus rarely forms in fibrous tumours, but I here exhibit to you a fine specimen of healthy purulent suppuration in the interior of the growth, the walls of the abscess being in a creamy state. The mass does not exceed the bulk of an orange, and derived its activity from a co-existing ovarian disease, which, as you may remember, terminated fatally by its pressure on the colon. Indeed, purulent matter to a great extent may form in large fibrous growths. A lady, who was the subject of one of these large growths, married rather late in life, became pregnant, and had a dangerous labour. It is supposed that inflammation ensued previous to delivery, for she died in a few days afterwards; and the interior of the tumour was so much disorganised, as to contain almost a quart of purulent fluid.

Another form of discharge, under which a fibrous growth loses some of its bulk, corresponds to the white mucous discharge of Sir C. Clarke's classification. This discharge is formed in the interval between the periods of menstruation, and comes away in gushes or drainings, or both. Unlike the grumous discharge, it does not proceed from the disorganisation of the tumour, but from the lining membrane generally, as an effect of the increased action of the uterine system. In one of these instances the tumour occupied the hypogastrium, and was nearly as high as the umbilicus. The discharge became excessive, and during its long continuance the tumour was gradually reduced, until, at the end of about two years, scarcely any of it remained; so little, indeed, as only to be felt, *per vaginam*; and when I last examined, I was unable to feel it at all. It appeared to me that the fluid began to accumulate in the enlarged uterine cavity soon after the close of each menstrual period, but was prevented from escaping by mucus within the neck, acting like a plug. After the expiration of a few days, when the cavity may be supposed to have become somewhat distended, painful contractions ensued, the mucus was dislodged by the pressure of the fluid, a gush suddenly took place, and, for a time, there would be no farther obstruction. The discharge had the effect of greatly relieving pain, and reducing the volume of the uterus. Ultimately, the disease was cured.

5thly. In support of the statement, that the fibrous tumour may change its situation, relative to the part where it was originally developed, I will presently relate to you two remarkably interesting examples.

Treatment.—The inefficiency of medical treatment in cases of fibrous tumours, may be ascribed partly to the firmness of their structure and their low degree of organisation, and partly to the periodical determination of blood and the excitement which accompanied it. As the treatment must be regulated by the existing condition of the tumour, I shall necessarily call your attention to a variety of points, dissimilar, perhaps, in kind, but adapted to the varying circumstances of each individual case. The discharges from the womb, and their effect upon the disease and on the general system, demand especial attention. An inflammatory state of the tumour, from its tendency to suspend the natural secretions, should be treated as actively as the case will permit; every means, also, which may tend to allay pain or improve the general health, must be enforced. Although it is quite necessary to repress inordinate discharges, it is too much the practice to consider hæmorrhage as an indication for medical treatment, without regard to the effect which the hæmorrhage is

calculated to produce. Not only may it be unnecessary to employ astringent applications, but it may be really dangerous by producing not only pain, but even acute inflammation. Precaution should be observed even in suppressing hæmorrhoidal discharges, for they may prove salutary by relieving the uterine circulation. Thus I have known a fibrous tumour situated within the walls of the cervix actually diminished during pregnancy, a change which could only be attributed to discharges of blood from the rectum. When the hæmorrhage from the uterus is severe, or the menstrual discharge is protracted, or so copious as to be incompatible with the patient's strength, suitable measures must be promptly enforced; the muriated tincture of iron, or the superacetate of lead in acetic acid, may be recommended, and the external applications of cold, and cold injections, particularly *per rectum*, will be highly proper. A profuse watery discharge, which proceeds either from the mucous membrane simply, or from an excrescence growing from it, should be restrained by a moderately strong astringent injection, and for this purpose alum answers exceedingly well. The utmost attention must also be paid to the bowels, for constipation has not only the effect of determining blood to the womb* and increasing its circulation, but promotes uterine descent, and renders the fibrous tumour more painful. Straining should be carefully avoided, and the bowels should be regulated once or twice in the twenty-four hours by medicines which exert no direct stimulus over the rectum. An inflammatory condition of the tumour should be treated by the occasional application of leeches, either to the surface of the tumour, the uterine orifice, the verge of the anus, or the groin. The practice is especially useful in cases attended by pain, tumefaction, and tenderness; and where the periodical discharge is pale coloured, and too scanty to afford relief, the depletion has also the effect of allaying spasm of the cervix uteri, and allowing the free egress of portions of fibrine, which, in certain forms of dysmenorrhœa occupy the interior of the organ, and occasion pain and severe disturbance in the nervous system. An inconsiderable bleeding from two or three leeches will soon produce comparative tranquillity. The mere excess of fibrine sometimes, indeed, yields to a temporary abstinence from animal food, as in two very obstinate cases of this nature, which I have already mentioned to you. In cases of fibrous tumour, complicated with painful and difficult menstruation, the tepid hip-bath, and other relaxing means, should be employed a few days before each periodical return. If the vaginal portion of the uterus be in an apthous state (so well represented by this little drawing),* a solution of the nitrate of silver applied to the surface will give very marked relief. With a view of exciting the action of the skin, antimonial medicines will be proper; pain may be allayed by morphia, and the bowels regulated by castor oil, or injections of the mildest kind. The hydrocyanic acid is well adapted to irritable states of the stomach. Supposing, however, an inflammatory swelling to proceed to suppuration, and that the matter does not readily find its way to the surface, on account of the resistance of the exterior coverings, we have to consider how far it is right to evacuate the fluid artificially. Some time ago, I was called a few miles hence, in consultation on a case of instrumental delivery; which was followed, in the course of a few days, by rigor and other symptoms. The woman died. On examination after death, a collection of matter was found within the uterine walls, but there was no other morbid appearance. In this instance, the matter could not have been reached had its existence been known. But supposing it to be accessible to the finger, what is to be done? The consequences of penetrating the solid structures of the womb might prove highly dangerous; and, under any circumstances, the puncture might not be made in such a direction as to reach the suppuration, supposing it to exist; and yet I think we may with propriety interfere, provided the suppuration be limited to the vaginal portion of the womb, and provided the local and constitutional suffering have become so severe as to threaten the destruction of life. A collection of this kind cannot remain any length of time in acutely-inflamed tissues, like the womb, with impunity; therefore the introduction of a grooved needle, or fine trocar, will be quite allowable, under the circumstances already mentioned; and if the chief fulness be towards the rectum, the puncture may be made in that direction, though nothing but the conviction of present danger would justify interference. A few months ago I attended a consultation, where the question of puncture was raised, and although unable to detect any fluctuation, we felt confident that suppuration had taken place; but as there was no immediate dan-

* A girl, attended by the late Dr. Darwall, died from excessive menstruation; she had a natural hæmorrhagic tendency, and slight cuts, or even scratches, would bleed inordinately. Constipation also had the effect of producing menorrhagia. On one of these occasions the hæmorrhage could not be suppressed (the plug was not used), and she died. On a post-mortem examination, with the exception of a very slight enlargement of one of the ovaria, the body was perfectly healthy.

* Obligingly taken from the living subject by a late pupil, Mr. Baker, the house-surgeon of the hospital.

ger to life, we determined upon waiting, and within a few days the abscess burst through the rectum. Previous to this the pelvis was so filled up with the swelling, as to render it barely possible to pass a catheter. On the patient's recovery, a small-sized fibrous growth could still be distinguished above the vagina. I will now relate to you the particulars of a case where the termination was still more interesting, but the precise character of the uterine enlargement still remains uncertain.

Mrs. ——, a married woman, but without family, for some months had experienced pain in the back and hypogastrium. I visited her in April, 1836. A few weeks previously to this, a tumour, in a state of active inflammation, had been distinguished in the hypogastrium, extending to the umbilicus. On examination, *per vaginam*, I found the tumour resting upon the ossa pubis, and evidently contiguous with the uterine orifice; indeed, the cervix uteri was distended by it, and was nearly globular. About a month subsequent to my visit, a discharge, *per rectum*, of extremely offensive and brown fluid took place, and continued escaping for about three weeks, when it entirely ceased. It frequently came away unmixed with fæces. The abdomen was not sensibly diminished for the first day or two, but, antecedent to the final disappearance of the discharge, it had nearly subsided. A year after this, the patient called upon me, and on examination, both *per hypogastrium* and also *per vaginam*, the disease seemed to have entirely disappeared, and the uterus felt quite natural.

You are already aware that it is a common practice to resort to powerful medicines, with a view of discussing fibrous tumours; but, in these cases, such remedies must be introduced so largely into the system, before they will produce any decided effect upon the disease, that in persons of a weakly constitution their beneficial influence is by no means commensurate with the injury they inflict upon the general health. The slow action of such medicines on the diseased part, is accounted for by the low organisation of the tumour. The use of mercury should be confined to cases of acute inflammation, accompanied by much pain, tenderness, tumefaction, and, perhaps, infiltration of serum. In such cases, the specific action of mercury on the system produces much benefit; but, under other circumstances, its employment, except as an alterative, will prove hurtful. The influence of iodine, as well as mercury, over the absorbent system, is well known; but can the administration of iodine be recommended with the view of promoting the absorption of a fibrous tumour? Dr. Ashwell, who has written so very ably on this point, tells us that he found iodine far less effectual in hard tumours of the walls of the uterus than he did in similar diseases of the neck of the organ; in the former it had the effect of only restraining the increase of growth, in the latter the disease was cured by it.* I have myself also had reason to attribute the diminution, and even the disappearance of small fibrous tumours, for the most part to the effect of iodine, and in persons of unimpaired health it ought to be tried. But much harm may attend its large and protracted employment, and in feeble habits it is far better to rely upon measures which are perfectly compatible with the maintenance of the general health, and to limit iodine to its external employment. It may be rubbed on the perineum, groins, and thighs, and thus be effectually introduced into the system. A middle-aged lady took iodine largely, until the mouth was affected by it. A year afterwards I prescribed an ointment for her, composed of the hydriodate of potass and lard, and whilst using it she remarked, as a singular circumstance, that the taste of the iodine had returned; she was, in fact, under its decided influence. The ioduret of iron would seem well adapted to a class of cases attended with discharges and constitutional weakness. With a view of relieving the pain which is sometimes produced by blood, confined, and perhaps decomposed, in the enlarged cavity of the womb (the only class of cases to which it is applicable), tepid water might be injected by means of an elastic bottle, to which a narrow elastic tube is attached, sufficiently long to reach the uterus, the body being recumbent, and the hips resting on the edge of a shallow vessel to receive whatever may return. In several protracted cases of dysmenorrhœa, from organic mischief, the effect of a small blister over the lumbar part of the spine was productive of very marked relief. The liability to frequent recurrence of the inflammation in a fibrous tumour, renders it improper to employ friction over its surface, or adopt any stimulating treatment; at least, not until the disease has become purely chronic. In very large tumours, a bandage, composed of very yielding materials, is sometimes useful, by affording support to the tumour, provided it does not press upon the large veins and absorbents. Steel medicines are indiscriminately employed in almost all discharges from the womb. In cases of menorrhagia the value of steel is universally admitted; but in dysmenorrhœa, attended with the formation of membrane, steel may prove too stimulating, the blood usually containing fibrine in excess. Considering how the growth of a large tumour is promoted by a state of pregnancy, the duty of enjoining abstinence for a time cannot admit of doubt, and especially when the disease occupies the cervix. The danger of the tumour becoming inflamed, or presenting an

* Guy's Hosp. Reports, No. 1, p. 147 and 153.

obstacle to delivery, together with the increased risk of hæmorrhage, will fully warrant such a recommendation. Moreover, the infant ought not to be nursed by the mother, for the tumour can scarcely subside whilst the mammary excitement continues. During a state of inflammation, perfect rest will be indispensably requisite. Under other circumstances, exercise, unless productive of pain, ought not to be neglected, lest the confinement should affect the general health. The position of the body must be varied according to circumstances; and, although the bladder is liable to be acted upon by the pressure of large-sized tumours, when the body is erect, the recumbent position should not be too strictly enforced, especially where there is obstinate constipation. Where the uterus has become retroverted by a fibrous tumour, the usual treatment must be pursued, though its replacement will, in a great measure, depend upon a diminution of the disease producing it. I have seen two such cases; the one occurred during pregnancy, and rectification, and took place under the use of the catheter. The second occurred a few days after an abortion, the same means were employed, and the tumour (very tender to the touch) disappeared under the mercurial influence. A still more important complication remains to be mentioned, namely, an advanced state of pregnancy with a large-sized tumour. In a case of this nature, attended with great danger to life, it might become quite necessary to bring on premature labour; but I am unable to lay down any specific rules for your government. Some very able remarks on this subject by Dr. Ashwell,* and a few plain comments by myself,† are already before the public, and to these I beg to refer you.

The fifth and last proposition, that the fibrous growth may ultimately change its situation so as to be expelled by the action of the womb, or slough away, or admit of removal by ligature, admits of very easy proof. You have already seen a specimen of fibrous growth, which was dissevered from its connections by the powerful action of the womb. In a still more marked instance, preceded by an hæmorrhage of three years' duration, a fibrous tumour, which was sufficiently large to occupy the hypogastrium generally, had the effect of dilating the os uteri, and allowing the greater part of the mass to enter the vagina. Sloughing presently took place, which led to the detachment of the tumour and the removal of the disease; but the process had very nearly destroyed the patient. Had an examination *per vaginam* been made sufficiently often, the sloughing might have been prevented by the timely use of the ligature. It is true that the hæmorrhage may go on for months, or even years, before the tumour reaches the lower part of the womb so as to be satisfactorily examined, and previously to this it is impossible to calculate with any degree of certainty on the course which the disease will take; but the change in question is far from improbable. Many such cases are on record; and whatever be the kind or degree of uterine enlargement, provided hæmorrhage or other discharge should continue, and there be no decided evidence of malignant disease, the vaginal examination should be made from time to time, so as to watch the progress of the case, and act according to circumstances. The practice so commonly pursued of leaving a fibrous tumour altogether to its own course, is as dangerous as it would be to leave a true polypus to its own course, and is, therefore, equally to be reprobated. In regard to the removal of fibrous tumours by the ligature, I must observe that the success of the operation will depend very much upon the peduncle (usually very short in purely fibrous polypi) not having a covering of the proper structure of the uterus, and its lining membrane. Consequently, it is of the last importance to place the ligature on that part of the stem which is at the greatest distance from its uterine extremity; indeed it would be less objectionable to include a portion of the tumour itself, than to apply the ligature too near to the uterine parenchyma. The stem may consist almost altogether of the parenchyma, as in one of the specimens now before you; and an inspection of this will at once enable you to appreciate the danger which necessarily attends the application of the ligature under such circumstances. At the commencement of this lecture I called your attention to a specimen of fibrous growth, which was removed yesterday by ligature. The case is an important one, and I will give you the particulars. An unmarried lady, aged forty-seven, began to suffer upwards of two years ago from excessive menstruation. For the first year this was the only symptom of disorder; but about the end of this time it was both preceded and accompanied by pain. She became sallow, lost her appetite, had a sharp small pulse, the menstrual periods were characterised by hæmorrhage and the formation of coagula, with an intervening watery discharge. On examination, *per vaginam*, the uterus had acquired a large and round form, and had descended low in the pelvis. It had a very firm feeling, varying, however, in its firmness in different parts. The cervix uteri was a mere ring, and occupied the left sacro-iliac junction, and the os internum was remarkably small. The body, the fundus, and the portion corresponding to the neck of the organ seemed almost equally globu-

* Guy's Hospital Reports, No. 1, and Lond. Med. Gazette for Dec. 17, 1836.

† Obstetric Medicine, p. 153.

lar. This examination was made in May. At the beginning of August the distress increased; vomiting frequently took place, and the pain became greater, more especially in the left hypochondrium, and here there was great tenderness on pressure, and pain during inspiration.

I renewed the examination in the early part of October, when a very marked change had taken place. The inferior part of the womb, instead of being globular, had assumed an elongated and oblong form, not unlike a large German sausage, but much thicker. The os uteri, still in the left sacro-iliac junction, was now sufficiently open to admit the point of the finger, which came in contact with a very hard tumour. I had now an impression that the tumour would ultimately dilate the orifice, and pass into the vagina. In November there was but little change. The discharges were sometimes white and watery, sometimes rather adhesive and slightly tinged with blood. In the following March, I found the great bulk of the tumour in the vagina: it was very hard, irregular, and in shape resembled a large mushroom with sharp edges. Beyond the great body of the tumour, I could just perceive a very thick, short neck, having the feeling of fresh cut Indian rubber. The uterus was much enlarged, and a second and smaller tumour could be distinctly traced in the hypogastrium. Unpromising as the case really was, yet, under an impression that the result would soon be fatal if nothing were done, I strongly recommended a trial of the ligature. In this opinion Mr. Hodgson, who was afterwards consulted, promptly concurred, and obligingly gave me his assistance at the operation. The ligature came away on the eighth day, leaving the tumour in the vagina. It was extracted by the forceps, though not without difficulty; and I now present it to your notice. It has no appearance of stem, and is too much torn by the crotchet to admit of your examining it advantageously; but it evidently has all the characters of the fibrous tumour. The patient did not experience a single bad symptom from the moment of the operation, and has now acquired a greatly improved state of health. The functions of the uterus are quite natural. The uterus is still too large, and the tumour which was felt in the hypogastrium seems connected with the body and neck of the womb, almost at a right angle with it, corresponding in its situation with the right sacro-iliac junction. It might be material in this species of tumour to use the ligature apparatus invented by Dr. Von Graefe, so as, if needful, to remit the pressure: a principle which equally applies to old cases of inversio uteri. The extirpation of a tumour which is defined, and does not extend beyond the vaginal part of the womb, might certainly be accomplished, although not without great risk, as in a case I have detailed elsewhere.* Severe pain, important hæmorrhages, and constitutional distress threatening danger to life, might possibly justify the practice; but such cases have not at present come before me. The necessity for such a step might also arise from difficulties in parturition, either actually existing or anticipated, the destruction of the child being the only alternative: but the propriety of so formidable a proceeding should be most maturely considered in consultation. And now, Gentlemen, as this is the last opportunity which will be afforded me of addressing you during the present session, I beg to acknowledge the marked attention you have given to the clinical instructions, which I have delivered in connection with this branch of medical education. My anxiety to impress important practical truths on the mind has been most satisfactorily responded to by the class, and although the obligation is mutual, you have afforded me a strong incentive for renewing these lectures at a future time.

CASE OF HEMIPLEGIA

OCCURRING IN

A CHILD AGED FIVE YEARS,

IN WHICH VOLUNTARY POWER WAS ENTIRELY LOST, AND REFLEX MOVEMENTS COULD READILY BE EXCITED.

By Wm. Fred. Barlow, *Esq.*, *M.R.C.S.*

The case, which I will endeavour to describe, presents several features that are worthy of consideration; but those points which chiefly demand attention are, the effects of *physical excitants*, and the influence of *emotion* in producing muscular action in limbs that are completely paralysed with respect to *voluntary* power.

Nov. 22, 1839. Sarah Bright, five years old, a pale, sickly-looking child, was brought to me by her mother, who stated, that she went to bed well last night, but was discovered in the morning to have lost the use of one side of her body, in which she had not discerned any movement during the day. Her aspect was dull and heavy, and she was somewhat drowsy, but susceptible of impressions. There was hemiplegia of the right half of the body, involving the face, as well as the upper and lower extremity. On that side the voluntary movements of the face were lost, and the expression of the features was destroyed, yet the muscles preserved their tenacity, and the eyelid could be excited to

* Obstetric Medicine, p. 146. The tumour, which nearly filled the cavity of the pelvis, was successfully excised by Mr. Samuel Evans, of Belper, formerly a most intelligent pupil of the midwifery class.

close. When the child drank, the fluid in part escaped from the angle of the mouth; but the paralysis was most obvious when the left half of the countenance was acted on by volition, the contrast between the sound and affected divisions of it being then strikingly marked, the latter in no degree participating in the muscular contractions which were induced. The will had no power over the leg and arm, which remained perfectly still; whilst those of the opposite side were actively excited. When the child was lifted up, the leg hung motionless; and on the mother attempting to make her walk, it trailed after her along the ground; the temperature of the paralytic limbs was much lower than those of the other side of the body; there was no anæsthæsia, for the child evinced suffering when pinched, which left no doubt as to sensation remaining, but any thing resembling a voluntary motion I looked for repeatedly in vain.

Now follow the phenomena to which I would more especially advert.

When the arm was pinched, it was convulsively contracted; the joints of the elbow and wrist were flexed: the thumb was drawn spasmodically inwards, and the fingers partially closed upon it. On the integuments of the leg being similarly treated, the member was drawn upwards; tickling the sole of the foot with a feather, gave rise to the most remarkable movements; the leg was bent with much energy; the muscles of the toes were seen to act spasmodically; and, at the same time, the upper extremity of the hemiplegic side was thrown into convulsive action. The unparalysed half of the body was convulsed occasionally, and violently agitated, when the paralytic side was in perfect rest. These convulsions were altogether limited to those parts of the body over which the brain still held dominion; they happened often of themselves, but might also be excited by irritation of any part of the surface. Thus, those excitants which produced reflex actions in the paralytic limbs, would be the causes of convulsions in their fellows; but no spasmodic actions were ever noted on the paralytic side, unless on the application of a stimulus. Sometimes, when the child was dosing, an attack of convulsions suddenly supervened, affecting the left half of the body only; on that side, too, there were twitchings of the angle of the mouth and eyelid, none on the corresponding division of the countenance.

The functions of deglutition and respiration, and the action of the sphincter and expulsor muscles, were unimpaired.

24. All signs of stupor were gone, and the child was more lively and intelligent; there was no alteration in the condition of the limbs, which were again excited to contraction as before; volition was utterly powerless. The child was offered an apple if she would take it with the paralytic hand, but not a finger moved, although she was sufficiently anxious for the fruit, as was shown by the eagerness with which she seized it when it was presented to the other one. Her mother, who had often and ineffectually tried to induce her to move the extremities, was surprised at the effect of tickling, pinching, the application of cold, &c., and said, "But they can move though." During sleep, the unparalysed half of the body was agitated by convulsions, which occurred more frequently and forcibly then, than at other times, and persisted without disturbing the repose. Putting the hand or foot into cold water, was found an efficacious method of exciting the involuntary motions; and it was both of interest and moment to observe, that although the child expressed much annoyance at the proceeding, she never made the slightest resistance to it, and never attempted to withdraw the hand, or made any movement that was perceptible, though at the instant of immersion strong contractions invariably happened.

26. There was a cessation of the convulsions of the left side the night previously; they could not be induced by pinching the surface, and the only spasmodic movements which were observable were those affecting the facial muscles. I made some observations on the relative power of heat and cold, in exciting the convulsive movements, and it would appear that the temperature which ranges most remotely from that of the part to which it is applied has most efficacy. A high degree of heat occasioned more forcible action than the immersion in cold water had produced.

I put the hand into water, at the temperatures of 90°, 120°, and 140°. In the first instance no contraction followed, not even the slighest; in the second, there were violent involuntary motions, at once affecting the leg and arm; in the third, more powerful still. The foot was spasmodically influenced when the hand was put in, and the converse was also noticed. Water was sprinkled freely on the face and thorax, and its effect was in either case to produce a forcible inspiration, in which both sides of the chest shared equally, and the ala nasi of the paralysed division of the countenance was remarked to be affected similarly to the opposite. The same was equally obvious when sneezing was occasioned by the introduction of snuff or ammonia into the nostril. The facial muscles, deprived of cerebral influence, could be brought into action by such causes as affect the respiratory muscles during sobbing, sneezing, deep inspirations, &c.

28. There had been no return of the convulsions; volition was resuming its power over the lower extremity; various move-

ments had been effected spontaneously, and it was used in walking. The force of volition was far inferior to that exerted over the other leg, and spasmodic actions could be induced by stimuli which would fail to originate them in a member enjoying all its functions in perfection. The condition of the features was improved; for whilst speaking she was seen to contract them, and fluid introduced into the mouth no longer escaped as formerly. The will had no more power over the superior extremity than before. To see the comparative effects of cold upon the paralytic and opposite hand, I placed the former in cold water, when it was instantly withdrawn in a spasmodic manner, as in the preceding experiments; but the child could place the latter in it without any muscular action resulting.

Dec. 2. The proofs of the influence of volition over the lower extremity have become more marked; but the arm seems as disobedient to its controul as ever, and nothing can prevail upon the child to move it, although she always bends the leg when asked, and seems pleased with using it. If requested to exert the hand she frequently draws it away with the other, as if to signify that she can move it in no other manner; but that which *volition* cannot accomplish is effected by *emotion*, and passion is all-powerful in occasioning muscular contractions in the member which are evidently of an involuntry kind.

On exposing the chest, and dipping my hand into water, for the purpose of sprinkling some drops upon the skin, the child, inferring my intention from what had happened previously, cried violently, and convulsive movements of the arm ensued similar to those which were excited by tickling, heat, and cold. Not a drop of water had touched her surface; but on dashing some in her face, the movements became more forcible, and the agitation of the paralytic side was excessive. As soon as quietness was restored, I again immersed my hand in the water, from which I withdrew it, as if to sprinkle some upon her. She screamed more passionately than before, and at this time the motions of the arm were most remarkable. The elbow was so strongly flexed, that the hand was elevated to the shoulder, and the contractions appeared to indicate by their energy the excess of the emotion which gave them origin.

The leg over which the power of volition was but partially restored, was also thrown into spasmodic action. The half of the body over which the influence of the will was unimpaired participated not in these convulsive movements, even when they were most violent.

Since the date on which the last note was taken, I have had no opportunity of seeing the patient, but have heard that, though well in other respects, she has not yet acquired full power over the affected arm.

As I have narrated the case for the information to be derived from the symptoms only, and the few simple experiments which were made, I have not described the treatment, which consisted in local depletion, the administration of purgatives, &c.

Remarks.

I may be permitted to make a remark or two on the preceding detail, which excellently illustrates some of the most interesting phenomena of paralysis. I shall not dwell upon the occurrence of reflex actions from physical excitants, which have now been observed again and again, and of which the bare mention must suffice. The effects of emotion were very marked, and I do not remember that any similar to these have been described by any other observer than Dr. Marshall Hall, who was the first to notice them. It is observed by that eminent physician, that "the arm which is totally paralysed to volition, or voluntary motion in hemiplegia, is strongly agitated by surprise or other emotions."—*Nervous System. Memoir*, ii. p. 95.

This fact is truly interesting, and it is worthy of consideration, that the kind of action which is excited by emotion accurately resembles that which is occasioned by physical stimuli. The agitation produced in a paralytic limb by startling the patient, is obviously typical of those convulsions which mental shocks give rise to. How singular! to see the features which no effort of the will contracts, expressing the agitation of the mind! and the arm which volition attempts to raise in vain, uplifted forcibly by the same emotion!

The different results of the exercise of volition merely, and the impulse of passion, in some cases of paralysis, may be likened to the contrast between the influence of emotion, and that of the will over the pulsations of the heart. All know how disobedient is its action to a voluntary effort! all know how tumultuously passion agitates it!

Volition counteracts the "true" spinal acts excited by external agents: so it does those of emotion, as a comparison between the hemiplegic and opposite extremities, when this child was alarmed, tended to show. Is not this fact illustrative of the power wherewith we prevent the facial muscles pourtraying the emotion we would conceal?

The circumstance of the convulsions being aggravated during sleep, should not surprise us, if we reflect that muscular irritability is increased at that time, and that the source of this and of spasmodic action is the same.

"The cerebral system *sleeps*," says Dr. Marshall Hall; but the "true" spinal

marrow has an exercise as untiring as the beatings of the heart itself. Hence not only are the physiological, but the pathological phenomena dependent upon its function, active during slumber; the closure of the eyelid, the fit of epilepsy, happen then.

June 28, 1840.

EXTRAORDINARY DEVELOPMENT OF THE MAMMÆ IN THE MALE.

To the Editor of THE LANCET.

SIR:—The exceedingly rare occurrence of a case similar to the following, has induced me to forward a report of it to you. It may prove interesting to the physiologist, although the extraordinary effects are to be traced to a primary pathological condition as their cause. I am, Sir, your obedient servant,

JOHN GORHAM.

Tunbridge, Kent, July, 1840.

William Rogers, æt. 61, a native of Chatham, and by trade a fisherman, states, that he has generally enjoyed good health. He married at the age of thirty-three, and has had three children, the last being thirteen years old.

Four years and a half ago he went into the Queen of Spain's service, having been previously examined in the ordinary way and pronounced quite fit for service, being a strong, hale man, in every respect.

On attempting to jump over an intrenchment in a retreat, and not being able to clear it, the anterior part of the body in the situation of the xyphoid cartilage, or thereabouts, was projected with great force against the upper and sharp edge of a wall; he was then driven backwards, and fell on his back. While lying as if dead, one of the Carlists stabbed him with a bayonet a little below the orbit on the left side, and immediately afterwards he received a sabre wound over the frontal bone of the same side. On regaining his senses he was able to walk a short distance, and was immediately put to bed. The symptoms induced by the accidents are referrible to the following parts:—The spine; lower extremities; bladder; rectum; the testicles; the mammæ, and the hair.

Spine.—When in Bilboa Hospital he had great pain in the vertebral column, and for this he has been cupped repeatedly. He has now a complete angular, or Potts' curvature; the trunk is bent forwards, and the spinous processes of the vertebræ backwards; pain is complained of, and this, on percussing, appears to be most evident at about the centre of the dorsal region, and also of the lumbar; there is constriction of the upper part of the abdomen.

Lower Extremities.—The right lower extremity is constantly affected with cramps, and, as he describes it, "pins and needles," and is generally colder than the left; he can walk a distance of five or six miles a-day.

Bladder.—His urine was drawn off for about fourteen days after the accident; a complete paralysis of the bladder apparently then existing, but since that time he has been able to retain it.

Rectum.—The alvine dejections were passed at first with great difficulty, sometimes involuntarily, and at others with pain. Since the collapse of the diseased bones, however, and the recovery of the patient, with the consequent deformity, all these symptoms, more immmediately dependent on the spinal lesion, have disappeared.

The most remarkable alterations produced are to be found in the three last-named parts: the testicles, the mammary glands, and the hair.

Testes.—Ever since the accident these glands have wasted; that on the right side is soft, pulpy, and of the size of a small nutmeg; it is drawn upwards, close to the external abdominal ring.

The *left testicle* is somewhat larger, but still atrophied, and, as in health, is more pendulous than its fellow. As regards their function, the poor fellow has not had the slightest sexual desire since the receipt of the injury.

Breasts.—About three weeks after the accident, the integuments around each nipple became painful and swollen, and a tumour, analogous, as I imagine, to the *areolar* of Sir A. Cooper, was formed. Leeches and poultices were applied. However, the increase of substance did not stop here, for, as the testicles decreased in size, hypertrophy of the whole mammary region became more and more evident; each breast is, at this period, of the size of an orange, glandular to the touch and pendulous.

Hair.—This, on the face, is of very tardy growth, so that he is obliged to shave much less frequently than formerly.

As far as I can judge from seeing him only for a short time, he is a quiet and inoffensive person; his countenance struck me as being, if not effeminate, yet certainly devoid of that roughness and harsh appearance which so often predominate in the military, who have been chosen from the lower orders of people. His voice was subdued, and he received a small trifle placed in his hands, as a compensation for allowing me to make a few remarks upon him, with apparent gratitude. His spinal affection, it is true, might have caused all this, and, therefore, the few circumstances here noticed I could not wish to be looked upon as a part of the narrative of the case. It was thought at the Westminster Hospital that a lacteal secretion might pos-

sibly exist, and a cupping-glass was had recourse to, but, on producing a partial vacuum, no milk issued.

A cast of the head has been taken, he informs me, by Dr. Elliotson, and one of the head unshaven, together with the bust, and other parts of his body, by Mr. Deville; the occiput is very flat; but, as the function over which the cerebellum partly presides, was quite normal, and active before the injury, little weight must be attached to this circumstance. The pulse is 56, and the respiration 20.

PUPÆ AND LARVÆ OF INSECTS

IN THE ALIMENTARY CANAL.

To the Editor of THE LANCET.

SIR:—The presence, in man, of other intestinal invaders than those which are usually recorded (such as Tænia, Ascaris, &c.), has often engaged my attention; but although cases are published of the larvæ of various insects being rejected,* I have not met with any instance of the like myself. I am, however, disposed to believe that a variety of insects occasionally exist in the digestive apparatus, and become a source of ailment more frequently than we are aware of. The following remarks are principally directed to the pupa or larva (I must leave the entomologists to determine which is correct) of a Musca. Some months back my friend, Dr. Bird, requiring some urate of ammonia for experiments, I procured, through the kindness of Mr. Cross, of the Surrey Zoological Gardens, some two or three ounces from his boa constrictor. My engagements prevented me calling for it until some days after it had been passed, and I then found it pretty thickly infested with some pupæ; they were alive, and had evidently, as ascertained by inquiry, been passed with the urate. I submitted some to my friend, Mr. Curtis the entomologist, who wrote to me thus:—"There is not the least doubt they are the offspring of a *Musca*, and probably the *M. Cunicularis*, Linn., which will be the Anthomyia of modern dipterists." The occurrence interested me, and upon looking over the second volume of the memoirs of the Medical Society of London, I found the 7th article to be "the case of a patient who discharged the pupa of the Musca Cibaria." The case here recorded is that of a man, about thirty years of age, who had for some time been out of health, with much disordered action about the liver, irregular appetite, &c., and whose symptoms appear to have subsided upon those pupæ being rejected; and it is recorded that he discharged "an immense number." This case is accompanied by a coloured engraving, which is nearly sufficient to identify the pupæ with those passed by the boa. In the following woodcut, fig. 1, is the natural size of the pupa, copied from one I possess; fig. 2, is an enlarged view of an insect, probably the same, from the Transactions of the Entomological Society, vol. ii., Part 3:—

where a case is recorded by the Rev. L. Jenyns, in which the larvæ of a dipterous insect, supposed to be the Anthomyia Canicularis, Meig., were expelled, in large quantities, from the human intestines. The patient (a clergyman) was under the care of Dr. Haviland, of Cambridge. In the spring of 1836, this gentleman, who was about seventy years old, complained of "general weakness, loss of appetite, and a disagreeable sensation about the epigastrium, which he described as a tremulous motion." In the summer and autumn of the same year, he passed very large quantities of the larvæ, and, according to his own statement, the chamber-vessel was sometimes half full, and he thinks that altogether he must have passed several quarts; they were alive, and when they ceased to pass his health improved, although, at the time this account is given (March 1837), he believed more were still in his stomach and intestines. In the seventh volume of the "Edinburgh Medical and Surgical Journal," two cases are recorded by Dr. Bateman which bear somewhat on the subject in question. It will be interesting to know how such insects are taken into the stomach; most probably, in the case related by the Rev. L. Jenyns, they gained access with the solid food, for the clergyman "had never drunk water unmixed, but generally beer, tea, and such beverages;" at the same time, the water used was entirely supplied from a pond on a stiff clay. It will also be important (if a parallel case be met with) to obtain information, as to the best means of rapidly destroying them, for the clergyman

* For example, see the case of Mary Riordan, Trans. of Assoc. Phy. Ireland, where nearly 2000 larvæ of the Blaps Mortisaga were reported to have been discharged.

above mentioned was passing them for several months; and although the larva of the gad-fly is stated, on authority,* "to exist in the stomach of the horse during the whole of the winter to the end of the ensuing spring;" and that "they cannot be injurious, for the horse enjoys the most perfect health when the cuticular part of his stomach is filled with them," I must acknowledge myself a sceptic: on this latter statement, at any rate, it is very clear that all the human subjects traced to suffer under the invasion of the larvæ I have noticed, have been, more or less, deprived of health, by the irritation and general disturbance they have produced. I am, yours, &c.

W. T. Iliff.

Newington, July 8, 1840.

SPECIMEN OF GOVERNMENT REPORTS.

To the Editor of The Lancet.

Sir:—To my no small surprise, I find, in Dr. Browning's Report to the Government, from Parkhurst Juvenile Prison, Isle of Wight, the following curious statement:—"The diet supplied for breakfasts and suppers, consisting chiefly of oatmeal, tends to produce diseases of the skin; and the instances of itch and other similar eruptions, with only a few exceptions, have been ascribed to that source. The probability of such a cause will, in some degree, be counteracted by the intention of issuing green vegetables occasionally for dinners in lieu of potatoes."

I had hoped that the ignorant twaddle of itch being generated by oatmeal diet, and descending, as an heirloom to my countrymen and women in their minority, had, in the year 1840, only existed as a nursery tale. In the nursery or kitchen, such statements, with others equally absurd, might perhaps be tolerated; but when they assume the form of an official report from the surgeon of a government prison, to sensible and discriminating government commissioners, it behoves the medical officer, so reporting, to furnish some proof that oatmeal diet *ever* produced itch in those fed principally upon it. It is true that itch and oatmeal diet both existed contemporaneously in the Highlands of Scotland half a century ago; but whilst I was an apprentice in that country, about that period, neglect of personal cleanliness, and *want* of such wholesome nourishment as oatmeal diet affords, were considered the cause of diseases of the skin, itch being of the number.

I have known whole districts where the children and servants were principally fed upon oatmeal diet for a series of years, without a single case of itch occurring, which could not be most clearly traced, either to infection, filth, or starvation. In the year 1836 I revisited the same localities, and am happy to inform all who are inquiring for information (and are not incubating causes to fill up official reports when they are at a loss to account for effects), that oatmeal diet has become more plentiful there, and itch (in consequence of more general cleanliness) much less common. Indeed, I will venture to say, that Dr. Browning may now travel through all the oatmeal districts without fear of contamination from that disease. Dr. Browning, however, seems to lay a part of the blame upon potatoes, for which it appears greens are to be substituted. Are the greens to correct the effects of the oatmeal or the potatoes? I would give the Doctor a friendly hint, to be careful how he attacks a poor Irishman's "staff of life;" and hope to find a little more precision in the next medical report of Parkhurst Prison. I am, Sir, &c.

Wm. Wilson,
Surgeon, Royal Navy.

55, Charlotte-street, Fitzroy-square,
July 13, 1840.

DEAFNESS PRODUCED BY QUININE.

To the Editor of The Lancet.

Sir:—In a recent Number of your Journal is related a case of dumbness, caused by large doses of quinine. I have lately had my attention directed to two cases of deafness, induced by large and repeated doses of that medicine.

The first patient, a female, æt. 48, had been suffering, for some time, from sciatica, for which quinine was administered. After taking it for about three weeks, deafness suddenly ensued. It was thought proper to subject her to no remedial treatment, with the exception of an occasional aperient. In about three weeks she regained her hearing.

The second patient, also a female, æt. 60, had been suffering considerably from tic-douloureux, and quinine had been taken freely and frequently; in consequence, the acoustic nerve gradually became more and more *insensible*, until conversation was entirely prevented. Unfortunately, this lady continued the quinine for a few days, after the deafness had commenced. The quinine was then withdrawn, but she was subjected to no other remedial treatment. In about three weeks her hearing began gradually to return, and we were in hopes that she would entirely regain it; this, however, has not been

* See Library of Useful Knowledge, art. "The Horse," p. 201.

the case, she being only capable of hearing those persons who address her in a very loud tone.

These cases are doubly instructive, as they suggest to us the propriety of not only withdrawing, in similar cases, a medicine which possesses so great a power over the special nerves of sense, but we may naturally expect that, in many cases of tinnitus, its free and frequent exhibition may remove this unceasingly tormenting symptom, when dependent upon functional derangement of the acoustic nerve.

The latter case, more particularly, suggests the importance of not alone trusting to nature to restore the defective energy of the acoustic nerve, when injured by the action of quinine. In addition to aperients, which should be administered for several alternate days, leeches should be applied over the mastoid processes, or, if occurring in a young and healthy subject, cupping-glasses might be placed behind the ears, afterwards applying strychnia in the endermic method. If, after a few weeks, the hearing should only partially return, it would be a very proper case for the application of electricity, in the manner recommended by Magendie.* I am, Sir, your obedient servant,

JOSEPH WILLIAMS, M. D.

8, Tavistock-square, July 10, 1840.

ON THE TREATMENT OF SOME DISEASES OF THE TESTICLE BY COMPRESSION.

By LANGSTON PARKER, *Esq., Surgeon, Birmingham.*

A SHORT time since, Fricke, of Hamburg, proposed the treatment of hernia humoralis, by compression; and, subsequently, Ricord has modified Fricke's method, which is now generally followed with success in the Parisian Civil Venereal Hospital.

I have now for some time adopted this practice, and can speak from my own experience, in numerous instances, to the advantages it possesses over the ordinary methods, both as regards the number of complete cures effected, and the rapidity with which they are made. Fricke originally proposed compression in ordinary swelled testicle; but I have since employed it in chronic or subacute inflammations of this organ, whether dependent on syphilitic causes or not.

In common swelled testicle compression may be employed as soon as the patient is able to bear the application of the plasters; and this is generally much sooner than might be supposed, however acute the disease may be. The great advantages possessed by compression are, almost immediate relief to pain; which is occasioned, in great measure, by the dragging and weight of the inflamed organ, and is mitigated, and most commonly completely removed by its support: the patient can pursue, in most instances, his ordinary duties, and there is no occasion to confine him to bed; a circumstance of great importance where concealment is wished, as it always is, in diseases of this kind. In addition, the cure is much more quickly, and much more perfectly effected by compression than under the ordinary method, the swelling of the gland more rapidly subsiding, and less commonly leaving behind it any chronic irritation and enlargement, which is liable at some future time, in bad constitutions, from injury, or from a renewal of the disease, to degenerate into some of the malignant forms of disease of the testis.

Chronic inflammation and enlargement of the testis also very commonly occurs as one of the symptoms of constitutional syphilis, as well as from other causes. Here, also, compression, as a local remedy, is by far the most valuable of any with which I am acquainted, particularly in those cases where enlargement of the organ, from chronic inflammation, has taken place to a considerable extent, where the weight chiefly incommodes the patient, and little or no tenderness is experienced when the part is handled.

I am not prepared to say how far compression may be of service in the incipient stages of certain forms of malignant disease of the testis, but believe much advantage may be derived from its employment, since, in addition to the benefit to be looked for from the mere compression of the part, much good may be expected from the constant topical application of mercury, iodine, and other remedies, only to be well accomplished in this way.

Compression of the testis is to be practised by surrounding the organ by straps of plaster, applied as closely and as tight as the patient can bear. The plasters I generally use are those of ammoniacum, with mercury, or iodine and belladonna. These are to be smoothly spread upon thick wash leather, and cut into thin straps; an assistant then grasps the testicle, and draws it as far downwards as he can in the scrotum, which should previously be washed with a little spirits of wine. The first strap should be placed at the upper part, circularly round the testis, and succeeded by others, placed in the same direction, till the whole is covered. A second series of straps is then to be placed in an opposite direction to the former, crossing them at right angles, from behind forwards. One or two long ones may then be placed over these, where they appear to be most needed, to keep the whole in place. The parts should be sup-

* See LANCET, vol. ii., p. 526, 1835-6.

ported by a well-fitting suspensory bandage, although the plasters at once relieve any inconvenience or pain that may have been occasioned by the dragging or weight of the testicle.

142, Snow-hill, July 10, 1840.

POLYPOUS TUMOUR

CONNECTED WITH THE OS UTERI.

To the Editor of THE LANCET.

SIR:—If the following case (the specimen I have forwarded you) be anywise important, it is at your service. Your obedient servant,

M. D. THOMPSON, M.R.C.S.L.

Stalybridge, June 22, 1840.

On the evening of June 20th, I was requested to visit Mrs.——, who was in labour. I found, on examination *per vaginam*, that the os uteri was dilated considerably, and that it had a tumour connected to a portion of it.

The connection of the tumour was effected by small peduncles, which, by a little pressure, were broken through. The tumour was invested by a dense, strong membrane; its appearance was buffy; its form renate; its longitudinal diameter two inches, and the transverse, an inch and a half.

On making an incision horizontally through the centre of the tumour, and carrying it from one side nearly to the other, I found the scalpel was interrupted by bone. On examination of the section, nine-tenths of the tumour were apparently cellular membrane, containing a gelatinous fluid; and the remainder, bone enveloped in distinct muscular fibre. The peduncles, which connected the tumour to the os uteri, were adjacent to the muscle and to the osseous deposition.

The female, during her pregnancy, had had no hæmorrhage; the labour was of the ordinary description, and was quickly completed.

*** We are not disposed to agree with Mr. Thompson in the opinion, that the tumour was attached by more than one pedicle; the smaller projections, resembling broken pedicles, appear to be small growths from the surface. The red tissue surrounding the ossific matter we have examined under one of Powell's latest microscopes, and have ascertained to be true muscular fibre of animal life in an incipient state.

THE LANCET.

London, Saturday, July 25, 1840.

Mr. WARBURTON a short time since gave notice of a motion in the House of Commons, to come on for discussion on Tuesday last, to the effect that the House should resolve itself into a Committee of the whole House, to take into consideration the laws affecting the Medical Profession. The House having met on Tuesday last, at twelve o'clock, and sat until half-past three, it was then adjourned to five o'clock, at which latter hour there being only 36 members present, Mr. SPEAKER proclaimed that there was "no House," and, consequently, the motion could not be brought forward. Mr. WARBURTON, however, has stated in private, that it is his intention to ask for leave to bring in a Bill, almost immediately, whether he has the opportunity of making an exposition on the subject, in a speech, or not. Probably, after all, this will be the wisest course to adopt, as an ample opportunity would thus be afforded to examine the provisions of the measure before any party is committed with reference to its principles or details, in a premature, and, may be, a hasty discussion.

HOUSE OF COMMONS,

Wednesday, July 22*nd*, 1840.

[The following observations were made in the House of Commons since the foregoing remarks were written.]

Mr. WAKLEY rose and said, that as he saw his honourable friend, the Member for Bridport, in his place, he was desirous of inquiring, as that honourable Member had been prevented, on a previous evening, from submitting his motion to the House relative to the laws which affect the Medical Profession, whether he had any objection to explain the course which he intended to pursue with regard to that subject.

Mr. WARBURTON said, in reply, that as he feared he should have no chance of passing any Bill in the present Session of Parliament, and as there was but little prospect of going into a discussion on the subject, it was his intention on the 28th instant to introduce a Bill, and get it printed, in order that, having been considered during the recess, it might be brought forward at an early period in the next Session.

The Meeting of the *Provincial Medical and Surgical Association*, at Southampton, will, we hope, prove more productive of useful results to the Profession than any of the preceding anniversaries. The last volume of "Transactions" contains several valuable papers. The Vaccination Report, the Retrospective Address by Dr. Symonds, and Mr. Ceely's Researches, are contributions to medical science; their publication, at the expense of the members, was no waste of the funds; and it appears probable that, by a little exertion and good management, so many volumes of the "Transactions" as may be published, will obtain a permanent place in the medical literature of the country.

It has been our painful duty to call attention, upon more than one occasion, to the extravagance and short-comings of the Council of the Provincial Medical Association. We have had to remind them of the *great designs* of which their leaders have said so much; and we have obtained their approbation by calling upon them to act, and to take a decided part, where the interests of the "twelve hundred members" were at stake; the medical practitioners in the country, under the present arrangements, being excluded from all power and influence in the corporations; the Colleges and Companies being closed in their face; and they having not the slightest chance of attaining places in the Council of the College of Surgeons, or the governing body of the Apothecaries' Company.

While we have denounced, in unsparing terms, the treacherous desertion, the truckling to the powers that be, the cowardly quailing before existing prejudices, we have never lost an opportunity of applauding the better spirit, and the more manly proceedings of the twelve hundred members. And now that the Council has announced its intention of prosecuting Medical Reform, we shall always be ready to assist and applaud their course of proceedings, so long as it remains straightforward and honest.

The Council is called upon to act now in a decisive manner. The Petition of the Association, it is said, originated the *Vaccination Extension Bill*, which places great numbers of the Medical Profession in a new thraldom, and has extended the baneful and mis-used powers of the Poor-Law Commissioners. But the *mischief* in the Bill was not the fault of the petitioners. Their memorial was seized, as an excuse for the particular measure of legislation. The Poor-Law Commissioners are superseding the Medical Profession in every quarter; and the Government is now employing Mr. Chadwick, not only to report upon small-pox and vaccination, but upon the health of the large towns of the kingdom. So much is the Medical Profession despised, degraded, and disregarded, by the self-elective heads of the Medical Corporations! With the present Medical Corporations, all the efforts of the friends of the Medical Profession in Parliament are futile; the Petitions of the Association recoil, and throw new powers into the hands of their enemies. Let us hope, then, that the Worcester Council will no longer be behind the other Associations of the North and South, but labour assiduously in the cause of a real, practical, Medical Reform.

The *Population Act* has been remodelled in committee. The *name*, *age*, and *occupation* of each *person* is to be enumerated by the registrars, by whom, also, assistants are to be selected, and approved of by the superintendent registrars. The registrar-general and other commissioners are to be appointed for carrying the Act into effect.

The schedule is omitted; so that the commission will have a certain discretionary power in determining the items to be specified. We are decidedly of opinion that the state of health—the numbers labouring under *severe sickness*, the *infirm*, and the *healthy*—should be ascertained; as without that, the *efficient* population of the country cannot be

known. And this has always been considered, in every country, a main object of the census.

Mr. LISTER has been exceedingly successful in carrying the Registration Act into operation; and he has availed himself of the opportunities which the Act gave, of collecting, and publishing for the general advantage, and for the use of medical men, an immense series of facts connected with the public health of the country. We have no doubt that he will be equally successful in taking the census. He should have all the assistance which the Medical Profession can render, in facilitating this great undertaking.

(From a Correspondent.)

FACTS are constantly turning up that are well calculated to force upon public attention the importance of having, in every hospital, experienced, well-educated *resident* surgeons. The other day, THOMAS MORGAN, aged 18, a nephew of Mr. MOTT, the Assistant Poor-Law Commissioner, died at Guy's Hospital, after having had an artery punctured; it is not for us to say how Mr. MOTT reconciles the death of his nephew in an hospital, with the Poor-Law doctrines, or his own practice in dealing with the relatives of *independent* labourers. Mr. MOTT, the first Assistant Poor-Law Commissioner on the list, with £800 a-year and travelling expenses, quietly sees his nephew conveyed to an hospital destined for the friendless poor; and the same Mr. MOTT refuses relief to the father of the independent labourer, or the artisan, who happens to earn £50 a-year!

The evidence of Dr. BABINGTON, Mr. COCK, Mr. TWEEDIE, and Mr. BROWELL, was not properly sifted. The dates and facts are not very distinctly stated in the newspaper report which I have seen; but it appears that MORGAN was admitted into the hospital on the 8th of July. His uncle—not the Poor-Law Commissioner—but Mr. ELWALL—saw him on the 16th; on the 13th he said he knew that they had done something wrong; for he had been bled, and then an operation had been performed. He died on the 16th.

Mr. COCK said that the dresser had punctured an artery. The bleeding had been stopped by the application of a tourniquet, and he immediately took up the artery; the artery was very superficial, and the patient being thin, the artery occupied the place of a vein in another person, and this occasioned the accident; the *nurse was discharged*, and was not forthcoming; she was not examined at the inquest. Mr. BROWELL, the steward, said he was told, that a patient *had asked three times to see a medical man*, and the nurse had not told any one of it; the moment he heard of this he discharged her. *He did not know what had occurred to the deceased*, and that an inquiry was to take place, or he should not have done so: this was on the night that the deceased died. Mr. BROWELL is a "wise" steward.

The young man had hypertrophy of the heart.

There was another important point elicited in the examination. The wise steward was asked, by Mr. ELWALL, who directed the inquests in Guy's Hospital to be held? Mr. BROWELL said that *he did, where he thought they were necessary;* but, from what Dr. BABINGTON had said, he did not think the case called for one.

It is matter of notoriety that the officers of the metropolitan hospitals opposed the election of a medical coroner. The question now comes, and the public interests demand that it be put,—Should the stewards or the officers of the hospitals be left to determine what cases of death are to be inquired into within their walls? Are they not likely to take very erroneous views of the necessity of such investigations? It is quite possible that they may desire to throw a veil over cases in which they have been culpable.

[Some remarks on this case will be found at the end of our report of the proceedings at p. 646 of this week's LANCET.]

MINUTE STRUCTURE OF THE TEETH.

ANALOGY BETWEEN TEETH AND BONE.

MR. OWEN'S DOCTRINE OF DENTAL DEVELOPMENT.

IN a recent Number of THE LANCET we laid before our readers some curious particulars relative to discoveries, said to have been made in the minute structure and mode of development of the teeth. The observations which, in a spirit of complete inde-

pendence, we then offered, have drawn forth a long and verbose epistle from Mr. Owen, who has shown considerable determination in the art of self-defence; but his manner of *fencing* fails to throw us off our guard. The question which we endeavoured to solve was simple and precise; it might lie in a nut-shell. Was Mr. Owen justified in stating to the French Institute, on the 16th Dec., 1839, that, before that period, "all writers on the nature and development of the teeth regarded them as bodies of an inorganic nature, developed like the hair and nails, by layers successively exuded from the surface of the pulp?" Was Mr. Owen the first to show, that teeth are formed by the gradual deposit of ossific particles in the cells of the pulp, after a manner that is analogous to the formation of bone?

Mr. Nasmyth has demonstrated, in the clearest manner, that he was acquainted with, and had published, an account of the organised nature of teeth, long before the month of December, 1839; and, furthermore, that he considered the teeth to be developed "by a transition of the pulp-cells (*at*, not *on*, the external surface) into the cells of the ivory." The only difference, then, between the theories of Mr. Nasmyth and Mr. Owen is, that whereas the former regards the development of teeth to take place by deposition of ossific matter in the more superficial cells of the pulp; the latter, Mr. Owen thinks, that it proceeds by a deposition of ossific matter in the cells of the pulp, beginning at the surface, and proceeding to the centre in a manner analogous to the growth of bone. The essence of the theory, evidently, is *a transition of pulp cells into ivory cells;* and this essential element is developed in the papers of Mr. Nasmyth, which were published fourteen weeks before the presentation of Mr. Owen's memoir to the Academy of Sciences. This much is clear and precise; we shall not, therefore, return to the subject; but since the publication of our remarks on Mr. Owen's conduct towards Mr. Nasmyth, in THE LANCET of June 6, 1840, certain particulars have been communicated to us, (in a letter by Mr. J. Tomes, of Mortimer-street, forwarded to us on the 1st instant,) which seem to show that Mr. Owen was indebted for his idea of the analogy between the formation of tooth and bone, to a young anatomist of King's College, whom (if the facts which we are about to state be correct, and we have every reason for believing them so to be) he has treated in a most unworthy and discreditable manner. The circumstances to which we feel it necessary to allude are the following:—

In the commencement of the year 1838, Mr. Tomes, then a student at King's College, began to investigate the structure of the human teeth, which was, at that time, very imperfectly known. The results of Mr. Tomes's researches were communicated to Dr. Todd and to the pupils of King's College. In the month of May, 1838, Mr. Tomes had made several hundred preparations illustrative of the most important points connected with the minute anatomy of the teeth. These he exhibited to Mr. Bell, who expressed himself well pleased with them, and encouraged Mr. Tomes to present a paper, on the subject of dental anatomy, to the Royal Society. Mr. Bell, at the same time, proposed to give to Mr. Tomes a written introduction to Mr. Owen, which Mr. Tomes accepted. In a few days Mr. Tomes called on Mr. Owen, who received him, microscope in hand, and informed him that he (Mr. Owen) had been made acquainted with the object of his visit, i. e., of showing some of the preparations made by Mr. Tomes. Mr. Owen examined the preparations, praised them much, and said that the subject was quite new in England, although it had been deeply studied by some continental anatomists. Mr. Owen, at the same time, exhibited to his visitor two sections of teeth, which he said he had prepared. (These sections, when afterwards seen by Mr. Clift, turned out to be two preparations which *Retzius* had left at the museum several months before.) Mr. Owen—as before him had been recommended by Mr. Bell,—advised Mr. Tomes to draw up an account of his researches, and, professedly, in order to aid him, lent to Mr. Tomes several rare teeth, on the condition that a section from each should be given to Mr. Owen. The communications between the two parties were now, for some time, frequent, when Mr. Owen suddenly changed his tone, informed Mr. Tomes that he would no longer occupy his valuable time, and advised him not to publish any thing on dental anatomy until some translation of the foreign investigations had appeared. More disinterested friends of Mr. Tomes, however, gave different advice, which was fortunately followed, and a paper was presented by Mr. Tomes to the Royal Society, on the 14th of June, 1838.

The paper was referred by the Society to Mr. Owen, who recommended that it *should not be published* in the "Transactions;" yet, in eight weeks afterwards, Mr. Owen read a paper before the British Association for the Advancement of Science, which contained *a great number of the facts discovered by Mr. Tomes*, and a description of numerous preparations made by him! Yet the name of Mr. Tomes never issued from the mouth of Mr. Owen, nor did a shadow of recollection seem to remain on his mind of the industrious youth who first suggested to him the notion of investigating dental anatomy, and whose ideas he had cruelly appropriated with the most brazen assurance.

The tale which we have thus unfolded, with plainness and unvarnished, we leave to the reflection of our readers, without comment, concluding with a few of the facts contained in Mr. Tomes's paper, in order to show how much of Mr. Owen's recent theory of dental development is original. Mr. Owen, be it remembered, asserts, that teeth are developed, *like bone*, by a concentric deposition of earthy matter in the cells of the pulp. This theory he affirms to be entirely new, because all writers who preceded him (Mr. Nasmyth and Mr. Tomes, of course, included) conceived that the substance of teeth was a mere inorganic exudation from the surface of the pulp. Now, what do our readers imagine that the title of Mr. Tomes's paper to the Royal Society was? The paper which Mr. Owen would have prevented being written, and when written in spite of him, prevented from being published in the "Transactions" of the Society; it was entitled, "On the Structure of the Teeth, the Vascularity of those Organs, and their Relation to Bone." Thus, in the month of July, 1838, Mr. Owen had been made acquainted with the fact (for the paper was referred to him), that a young English anatomist regarded the teeth as analogous in structure to bone. From analogy of structure to analogy of development, there was, surely, no great discovery, Mr. Owen. The memoir of Mr. Tomes was presented, as we have said, to the Royal Society on the 14th of June, 1838, and published in the "Medical Gazette," Feb. 16, 1839. We regret that we were not sooner acquainted with the existence of Mr. Tomes's paper, which escaped our notice (as also, apparently, that of Mr. Nasmyth), on account of the obscure channel through which it was communicated to the public; in an early part of it the author acquaints us that his purpose is, to trace the *intimate relations which exist between dental structure and that of bone*. With this object, Mr. Tomes describes, after his own researches (for he was unacquainted with those of the German anatomists), the minute anatomy of a tooth, their tubular structure, the transparent medium which connects the tubuli, and the various appearances of the tubes in different animals. Thus, in the wolf-fish, the tubuli take the direction of the length of the tooth; "but what is still more interesting (says the author), especially in tracing the *analogy between dental substance and bone*, is, that the tubes are continuous with those of the subjacent osseous structure; all the difference between the two being, that in the tooth the canals all take one direction, while in the bone they pass in any way, sometimes crossing each other in their course." Again (says Mr. Tomes), "when a section of this tooth, with some of the subjacent structure, is examined without the aid of a magnifying power, there appears to be a line marking the separation of the tooth from the jaw; this line is produced by a number of canals which are cut across; but it is seen, at the same time, that the portions between the cut canals are continuous, and so similar are they to each other, that it would be difficult to say whether they belong to the structure of bone or to that of tooth." In speaking of the vascularity of teeth, Mr. Tomes says, "Of the several parts which have been treated of, all, save the enamel, are vascular; and I would not deny, even to this, all connection with the circulating fluids. The vessels of the tubular part arise from those contained in the pulp cavity."

It is unnecessary for us to follow Mr. Tomes throughout the highly-interesting anatomical details which are contained in his memoir, our object being to direct attention to those parts in which the analogy between bone and tooth is pointed out. Even the crusta petrosa, Mr. Tomes thinks, is formed like bone. "Recently-formed crusta petrosa is so full of large canals, that it is rendered quite cellular. In this condition, which is similar to that of newly-formed bone, we may frequently observe a partially-developed corpuscule, the fully-formed part, with its radiating fibres, being directed from the vessel. I have also seen the same appearance presented in partially

ossified thyroid cartilage. With a knowledge of these facts, it will, I think, be difficult to suppose that crusta petrosa, and probably bone, are developed in any other way than from the vessels, especially as it is seen that the increase in density is proportioned to the decrease in the size of the canals."

Where, now, is the originality of Mr. Owen's theory, that teeth are developed in a manner analogous to bone? Where the truth of his assertion, that previously to December, 1839, all writers regarded the teeth as inorganic exudations from the surface of the pulp? Verily the lion's skin has been torn from the back of our English Cuvier.

GUY'S HOSPITAL.

WOUND OF THE BRACHIAL ARTERY, INSTEAD OF VENESECTION—DEATH.

CORONER'S INQUEST.

An inquest was held at this hospital on Monday last, before Mr. Payne, the coroner, on the body of John Morgan, a lad, between eighteen and nineteen years of age, who died in the hospital on the previous Thursday. The witnesses examined were Joseph Elwall, the uncle of the deceased; Elizabeth Flynn, his sister; Mrs. Flynn, his aunt; Morgan, his brother; Dr. Babington; Mr. Cock; the steward of the hospital; and the nurse of Lazarus ward, in which the deceased died.

From the evidence it appeared, that John Morgan was a very respectable youth, by trade a whipmaker. He had been subject for some time to palpitation of the heart, with enlargement of that organ, and for this complaint was admitted into Guy's Hospital, on Wednesday, the 8th of July, under what is called the *care* of one of the physicians, Dr. Babington. The history of the case, as detailed in the ward-book, was as follows:—"Suffered from rheumatism three years ago; the attack lasted two months, during which he was confined to his bed. After this he became subject to palpitation of the heart. The rheumatism recurred about three months since, and he had lately kept his bed for two or three days for an attack of the same disease. He had suffered from palpitation, more or less, ever since the first attack of rheumatism. The pulse irregular and intermittent; heart's impulse increased; rythm irregular, a musical sound with the first stroke, which was heard loudest under the left nipple." These symptoms, and the history of the case, led Dr. Babington to conclude that there was an enlargement of the heart, and to order him to be bled from the arm to the extent of six ounces, on the day of his admission. The operation of *bleeding* was performed by one of the dressers, who mistook the brachial artery for a vein, and made a longitudinal incision in the artery. Seeing that the blood was arterial, and came from the vessel *per saltum*, he became alarmed, placed a bandage and tourniquet over the artery, and sent for Mr. Cock, the assistant-surgeon, who immediately took up the vessel. The patient lived until the following Thursday, eight days after the infliction of the dangerous wound, and then died rather suddenly. Some discrepancy existed in the accounts of his state, from the period of the wound to the death of the patient; his friends asserting that he got gradually worse after its performance, whilst the physician and assistant-surgeon of the hospital declared that he had recovered from the irritative fever produced by the operation; that on the day previous to his death his tongue was clean; and that he was in a very favourable state, so far as the *operation* was concerned.

Dr. Babington deposed (part of his evidence is embodied in the above history), that, in addition to the bleeding, he ordered the deceased a saline mixture, with tincture of digitalis, to be taken three times a-day. He didn't know the dresser who bled him; it was usual for dressers to bleed the patients. Saw deceased again on the 10th. Mr. Stocker, the apothecary, saw him on the morning of the 9th, and ordered him some James's powder, with a "mercurial powder." This was proper treatment. Seemed feverish on the morning of the 10th. Looked at the blood; found the quantity ordered to be taken, in the porringer. Understood it was arterial blood, but could not judge from its appearance whether it was so, as it had been two days in the vessel. Deceased made no complaint to witness as to the bleeding. Understood the dresser had opened the artery, instead of the vein, by mistake. Saw deceased on the 13th and 15th; he died on the 16th. Did not examine the arm, but had understood that the artery was taken up. There was a poultice on it, and he did not wish to remove the poultice. Besides, it was *out of witness's department to look at a surgical wound*; he was under the care of the *surgeon* for *that*. Venesection was a *surgical* operation.* The operation might have produced more fever in the patient than was previously present. When witness saw him on the 10th, he was anxious about him, and thought the

---

* Dr. Babington would not have affected the *purity* of his medical character by looking at the arm. A division of the brachial artery, in an attempt to perform venesection, is not a surgical operation, but the operation of a pure physician.

ligature of the artery might have had an untoward effect, but could not then separate any symptoms he was labouring under from the general symptoms of his heart-disease. Was present at the post-mortem examination; the heart was twice its natural size, and unusually adherent to the pericardium; the mitral valve was thickened, and not capable of performing its function. Aortic valves thickened. Mischief about the heart not the result of the injury to the arm. The disease of the heart was sufficient to explain the sudden death. The arm was much swelled after the injury to the artery. Witness could not say with certainty that the result of the bleeding had *any* reference to the cause of death. It, however, might produce constitutional irritation, and a certain degree of fever, but this would not be discoverable on the post-mortem examination.* When an artery was wounded, and afterwards tied, mortification of the limb did not necessarily follow. The purulent discharge from the wound, when the patient died, was the result of the action of healing. Witness did not possess sufficient surgical knowledge to know what would be the appearance of a wound after death in such a case as the one under consideration. Saw the patient three times after the bleeding, but did not recollect his saying anything about the injury to his arm. Deceased was very ill. Saw no sign of mortification in the arm after death.

Mr. Cock, assistant-surgeon to the hospital, deposed to his having been sent for on the 8th, to secure the artery, which had been wounded longitudinally. Found a bandage and tourniquet applied over the vessel. Did not believe that more than eight or nine ounces of blood were lost by the injury to the artery. The vein had not been punctured at all. The artery was very superficial, and easily secured. Saw the patient every day after the injury until he died. The mistake did not appear to have any effect upon him. He had some fever after it, as would be always the case when such a wound was inflicted (especially in a patient in such a condition as was the deceased). *He had no more constitutional irritation than could have been expected from such a wound.* The irritation subsided in a few days. The wound looked healthy. Poultices were applied one or two days after the injury; a common proceeding in ordinary cases. After the operation the wound was strapped up, and the limb put on a pillow. Witness was at the post-mortem examination. The discharge from the wound was healthy. The discharge would be present after death if the wound was healthy, and had not healed. The wound would have healed *if the patient had lived.* Believed the death was the result of disease of the heart, and that the injury of the artery had no effect in the fatal result. The fever caused by the operation had subsided before he died. Before he died the tongue was clean, and the thirst less. The disease of the heart might have been accelerated by the fever produced by the operation; but this was a *medical* question, and he (the witness) was only a *surgeon.* He did not chide the dresser for his ignorance and maltreatment of the patient, because it was not necessary to do so. It was usual to feel for the artery before attempting to perform venesection. Believed that the thinness of the person in this case occasioned the blunder. The artery was very superficial, and ran the same course as the vein, which should have been opened. The bandage being on the arm, and the circulation being feeble, no impulse was felt in the artery, and it was thought to be a vein. Considered the blunder of the dresser to have consisted in his not taking into consideration the thinness of the patient, and the unusually superficial course of the artery. The incision was *an excellent* one, provided it had been *in the vein.* The mistake would not have occurred had the patient been fat.

The Coroner.—Might this mistake have occurred to an experienced man?

Mr. Cock.—The longer one lives the more experienced one becomes. The mistake will not occur *again* in this hospital. This case will act as a warning. The most experienced make mistakes.

By the Jury.—Believed the porringer was marked which contained the blood; but he did not judge of the quantity lost by the wounded man from any such mark, but from experience in such calculations. He could only make a rough guess as to the quantity on the pillow and bed. The wounded man lost no blood after the operation.

Mr. Alexander Tweedie.—Was at the post-mortem examination. The patient *did not live long enough for the discharge from the wound to subside.* If a person died suddenly, and it was found after death that there was heart-disease, that was *inquiry enough*, if that disease were deemed sufficient to produce death.

Mr. Browell, the Steward.—Heard that *the nurse* had neglected the patient on the night he died. He discharged her instantly for her inattention.* He knew

* The examination was not made by a disinterested pathologist, employed by the coroner to ascertain the facts, and express his opinion on them at the inquest, but was performed beforehand by the parties whose conduct might, directly or indirectly, have been criminated by the verdict. The purpose of an inquest may thus be wholly subverted in any hospital in the kingdom.

* Is the dresser "discharged," or the surgeon for whom the dresser was deputy?

nothing about the nurse, whence she came, or whither she had gone. He would have kept her if he had known she would be wanted at the inquest. Had heard that the discharged nurse had stated that if she was sent away, she would go to the friends of the dead patient.

Mr. ELWALL.—Whose duty is it to give notice to the coroner, when an inquest is necessary in this hospital?

Mr. BROWELL.—Why, mine, to be sure, when I think it necessary. When I don't, then I leave it to others who may choose to take trouble in the matter; I suppose that's what you're aiming at. *I saw no reason for an inquest in this case*, from the history given of it by Mr. Babington and Mr. Cock.

Mr. ELWALL.—When I applied to you respecting an inquest, you would give me no information on the subject, nor even answer me as to where I could find the coroner, although I was referred to you on the subject by the very medical officers of the hospital whom you have mentioned.

Mr. Browell quitted the room, indecently muttering something about "troublesome fellows."

Mr. ELWALL.—I am grateful to the coroner for the trouble he has taken in this case; but the anxious feelings of a near relative towards a good and kind-hearted boy, must be taken as my excuse for seeking to know every thing connected with a death occurring under the circumstances which attend the present case.

The CORONER summed up the evidence, and observed that the medical witnesses had given it as their opinion that death was the result of disease of the heart alone, and was not in any way influenced by the injury of the artery. Would the jury oppose this opinion? He had purposely refrained from calling the young man who had inflicted the wound, because the evidence of such a witness would answer no good purpose. The mistake was one which he and all the medical officers of the hospital must deeply regret. Such occurrences were very lamentable, and might be obviated, probably, if, in the hospitals, there were resident surgeons to see the patients, instead of leaving them altogether under the care of dressers. He had found it necessary to make the same observation at St. Thomas's Hospital. In these enormous institutions (Guy's and St. Thomas's Hospitals) the dressers had the entire care of the patients. He hoped the governors of the hospitals would effect a reform in this respect, and appoint resident medical officers in them. Such a proceeding would be most certainly advantageous to the unfortunate patients.

The Jury returned a verdict—"Died of disease of the heart," with an urgent recommendation that properly-qualified resident medical officers might be appointed on behalf of the lives of the inmates of the hospital. It was stated that the dresser who had made the mistake was a member of the College of Surgeons; but the Coroner said that whatever he might be, the recommendation was a good one.

In this inquiry it was painful to observe the treatment of the questions of the relative of the deceased (Mr. Elwall, his uncle) by the medical witnesses, who regarded him as an intruder, whom they were not bound either by duty, humanity, or courtesy, to "understand," though his inquiries were perfectly plain and intelligible. The coroner and jury understood them well enough The contemptuous manner of these witnesses was copied by the menial steward, who ought to have been set a very different example.

If ever the necessity of a medically-educated coroner was shown at any inquest, it was manifested in the present case.

Mr. Payne showed a laudable anxiety to sift the affair to the bottom, but his want of knowledge of medical subjects was grievously apparent throughout the inquiry, by the ease with which the witnesses eluded his examination. Even had the progress of the deceased been entered in the clinical book, day by day, and produced as evidence, the coroner could not have read or understood it, as a means of estimating the treatment. Even the description of the post-mortem appearances of *the arm was not once alluded to*. It was not stated whether the ligature had come away; nor what was the state of the vessels which might have carried on the circulation after the main artery was tied; nor whether the circulation was carried on at all at that part; nor whether the symptoms preceding death were such as are usually observed in persons who die from disease of the heart; nor what was really the quantity of the "irritative pus" consequent upon the ligature of the artery; nor on what grounds the medical witnesses assumed that the injury to the artery had no effect on the life of the patient. In fact, it was not intended that any inquest should be held on the deceased,—not that the medical officers need fear inquiries from which they and the dressers, to whom they entrust the lives of the patients in these great warehouses of disease, can so easily escape the proper consequences.

True; it may happen that a witness wil

be thrown for a moment off his guard, and accidentally let out his *real* opinion of the case, as when Mr. Cock termed the death in the present case A WARNING which would prevent such a "*mistake* from again occurring in that hospital;" but such lapses of the truth are not obtainable from more perfectly cunning and less candid witnesses, and inquiries into matters of life and death should not be perilled on such uncertain confessions. As to the promise of Mr. Cock that such deaths shall not again occur in Guy's Hospital, the public have not the slightest guarantee that what has been continually happening in these hospitals, under the existing system of management, shall not be repeated there twenty times within the next six months, especially while Mr. Payne depends, in them, on such a constable as Mr. Browell for his notices of deaths.

GANGRENE OF THE MOUTH
SUCCESSFULLY TREATED
BY THE ACTUAL CAUTERY.

By Henry Obre, *Esq.*,

House Surgeon to the Marylebone Infirmary.

March 18.—Charles Harris, aged nine years, living in a damp, unhealthy atmosphere, was attacked a few days since with fever, which quickly terminated in typhus. He was in a low insensible state for two or three days, requiring wine and stimulants to recover him. When sufficiently recovered to sit up in bed, on the 25th, an ulceration was perceived on the external and back part of the gum of the left upper maxilla, having an ash colour. This had increased to such an extent, before being discovered, that the two first molar teeth were loose, and soon fell out; the fauces were covered with aphthæ, the tongue and other parts of the mouth remaining perfectly natural. The ulcerated surface was touched with muriatic acid, mixed with honey; and he continued the use of quinine and red wine, which he has been taking since.

26. The ulceration has passed to the mucous membrane of the cheek, which is hard, swollen, and has a glazed appearance externally, except in one point in the centre, which feels soft, as if the disease had nearly passed through; pulse small; no diarrhœa, perspiration, or any symptom of debility. Nitric acid was applied to the ulcerated surface, the mouth cleansed with a gargle of bark and alum, and a blister applied to the back of the neck.

29. The gangrene has passed through the cheek to-day; its size is about that of a half-crown; it presents a dark colour, and gangrenous fœtor; the hands require to be restrained to prevent his disturbing a poultice of yeast which has been applied; the ulcer to be washed with a solution of chloride of soda; he sits up in bed, and eats mutton-chops, indeed any thing he can get, his appetite being seldom satisfied.

30. The disease has increased in extent, nearly joining the commisure of the mouth in front, and passing back to within an inch of the tragus. The parents having consented, the actual cautery was applied to the diseased surface, on the external parts, with little uneasiness to the child. From this time, until the 4th of April, the disease was perfectly arrested, when it began to increase under the integument. The edges of the sore were irregular and everted, the internal parts of the mouth quite exposed from the wound, and also the superior maxilla as high as the zygoma. Being afraid that the lower eyelid would be destroyed, as the disease was extending in that direction, the cautery was repeated with the same success as previously. Charcoal was ordered to be sprinkled on the poultice, the smell of the chlorine being unpleasant.

8. The greater part of the slough produced by the last application is coming away; granulations on many parts are making their appearance; perspirations have come on this last day or two; in other respects he is improving, eats, sleeps and drinks well. Another of the double teeth on the diseased side has fallen out.

Those parts not showing a disposition to heal, on the 10th were touched with nitro-muriatic acid. The perspirations have left him; had an attack of diarrhœa this morning, for which he was ordered aromatic confection. The boy is up and walking about the room; continues the use of wine, meat, &c. From this time the wound gradually improved, and he attended at the infirmary two or three times a-week; the face being perfectly healed, excepting a small part the size of a pea. He is unable to open the mouth to a greater extent than half an inch, in consequence of an adhesion of the cheek near the mouth to the gums on the diseased side, which can easily be removed by the division of the adhesion. The face is not disfigured to the extent that would have been supposed.

On the 2nd of January, 1840, Margaret Dagnell, aged three years, became my patient, when the following history was elicited from her parents, who are labouring people:—Previous to the present illness the child was never seriously indisposed, always resided in a confined neighbourhood, either in London or Manchester, her diet being chiefly vegetable; she seldom took animal food, in consequence of their poverty. About

a month since, an epidemic of measles prevailing, she was attacked slightly, being ill only a few days. While convalescent, some small spots or ulcerations were observed on the inner surface of the lower lip and gums, for which the child was taken to a druggist, who ordered a bitter mixture; no other medicine being given. The ulceration now rapidly increased, and destroyed part of the lower lips and gum, loosening the lower teeth, all of which fell out in a few days, except the first molar on each side.

The child lays on the back, appearing to suffer little or no pain; the lower part of the face has a frightful aspect, the covering of the lower jaw anterior to the insertion of the masseter is quite denuded, except a narrow communication joining the angles of the mouth; the exposed bone beginning to decay; the integument surrounding the disease is pale, tumid, and hardened; fœtor most unpleasant; pulse, 108; tongue covered with a brown fur; the hands are continually thrown about, and attempts made to pick her face; wine and quinine were given internally; warm applications to the face.

3. The gangrene much increased, has destroyed the communication between the angles of the mouth, and separated the base of the tongue from the bone, passing down nearly to the os hyoides, exposing the submaxillary gland, which is but little affected. The actual cautery was applied all over the diseased surface on the external parts, which seemed not to be perceived by the child; chlorine cloths were applied, and the mouth washed with a gargle of bark. A quantity of sanious fluid flowed through the wound.

4. The gangrene has not extended externally, where the cautery has been applied; not so inside the mouth, which has been touched with nitric acid to-day; the child is fed with fluids, the head being held back to prevent their flowing out through the chasm. The child remained in this state until the 6th, when it died, exhausted by diarrhœa; the toes of the left foot, for a day or two before death, were cold and blue; flannel was kept applied to them; the teeth and gums of the upper jaw remain perfect.

Remarks.—The cases which I have related above, demonstrate the very great efficacy of the actual cautery in extensive destruction of the face from gangrena oris. I was induced to employ the actual cautery on the recommendation of Dr. P. Hennis Green, who informed me that he considered it to be the only remedy which afforded any chance of arresting the gangrenous destruction of the soft parts, after perforation of the cheek. In the first case a complete cure was obtained; in the second the child died, but the cautery completely arrested mortification at the parts to which it was applied, and would, probably, have been attended with the same success as in the first case, if it had been employed under equally favourable circumstances. I am not aware that the actual cautery has ever been used in this country in the treatment of gangrena oris, although most of our writers recommend it, on the testimony of Baron, Isnard, and Marjolin. It is evidently a powerful agent, and is worthy of trial in that severe form of a disease, which, according to Dr. Willis, destroys nineteen out of twenty of those attacked.

LUXATION OF THE ODONTOID PROCESS;

PRESSURE ON THE SPINAL MARROW, WITHOUT SYMPTOMS.

The political journals have alluded to a very remarkable case of luxation of the axis, with considerable displacement of the odontoid process, which by its pressure had reduced the spinal marrow to nearly one-third of its bulk; yet, although the accident dated from several years, no symptoms of paralysis had occurred during life. This case has been the subject of medico-legal investigation before the medical coroner for Middlesex. A very similar one is related in the April number of the "Edinburgh Journal." A young man, 22 years of age, was confined to bed for seven weeks by rheumatism. On becoming convalescent, it was discovered that anchylosis of the superior vertebræ had taken place, the head being fixed and bent forwards. The man was able, however, to return to his occupation of cutler; at the age of 28 he was seized with severe bronchitis, which recurred occasionally for four years, when he died suddenly in a fit of asphyxia. On examining the body after death, besides extensive anchylosis of the upper cervical vertebræ, there was luxation of the axis; the odontoid process was thrown backwards, so as to approach within three lines of the anterior surface of the posterior segment of the atlas. Notwithstanding this remarkable diminution of diameter, the membranes and substance of the spinal marrow, at this point, appeared to be perfectly healthy, and the nerves arising from the cervical portion of the cord, presented their normal size, colour, and consistency.

PUNCTURE FOR CHRONIC HYDROCEPHALUS.

In the same number of the "Edinburgh Journal," are recorded the histories of two cases of chronic hydrocephalus, treated by puncture. The subject of the first case was two months old; the head measured 20 inches round, and 12 inches from ear to ear. On the 10th of March, 1839, a puncture was made, with a trochar, on the right side of the head, and 15 ounces of clear fluid were drawn off; the child turned pale,

and vomited. The head was now bandaged up. On the 23rd, 11 ounces of fluid were evacuated; on the 26th, 16 ounces. The child was again visited on the 21st of August, and then appeared to be in good health, although the head had increased in volume to 27 inches by 17. Since then the medical attendant lost sight of the case.

In the second case, the child, 8 months old, had been attacked 10 weeks after birth; the head measured 22 inches round, and 14 from ear to ear. On the 12th of April, 1838, 20 ounces of fluid were drawn off by puncture, and the head strongly bandaged; on the 28th, 23 ounces; on the 12th May, 22 ounces; on the 19th, 19 ounces. These repeated punctures and extraction of fluid were attended with very little benefit. On the 29th, the head being again measured, it was found that only half an inch had been gained. Mercury was administered, but the child sunk on the 2nd of June. On examining the brain after death, 90 ounces of serum were discovered in the cranial cavity.—*Archiv. Gen. de Med.*, May, 1840.

PRESERVATIVE POWERS OF THE VACCINE VIRUS.

The question of the preservative efficacy of the vaccine virus against small-pox, has been frequently discussed of late, and much difference of opinion expressed by various medical authorities. In the last number (June 13, 1840,) of the French "Medical Gazette," now before us, we find some remarks on an epidemic of small-pox, which prevailed for nine months in one of the French provincial towns; these refer principally to the protective influence of vaccination, and are based, as the writer assures us, on considerable experience. His conclusions are the following:—

1. The epidemic prevailed amongst the vaccinated and the non-vaccinated, but was most fatal amongst the latter class.

2. Amongst the non-vaccinated numerous cases of confluent small-pox occurred; but their fatal termination depended rather on the supervention of catarrhal symptoms than on accidents connected with the small-pox itself.

3. The number of vaccinated persons attacked by variola was very great, chiefly from the age of eight or nine years, up to that of thirty. But the more removed were the patients from the period of vaccination, the more severe and dangerous was the attack of small-pox.

4. Again, the lesser the period since vaccination, the more mild was the disease, and the more rapidly did it terminate, never extending beyond nine to eleven days.

From these and several other facts of a similar nature, the writer concludes that the preservative power of the vaccine virus has considerably diminished within the last forty years. In support of this opinion, he described the appearances of the vaccine vesicle such as he was accustomed to see it twenty years ago, and compares them with the progress of the same vesicle in our own more immediate time. Formerly the local and general symptoms were very well marked and energetic, now they are of an insignificant character; hence the author insists on the necessity of renewing the vaccine matter from its original source. —*Gaz. Med.*, No. 24, 1840.

MR. ROWE AND MR. SMITH.

To the Editor of THE LANCET.

SIR:—Much as I dislike controversy, I think I am bound to make one or two observations on your remarks of my conduct towards Mr. Smith. I have already said how I was sent for to Mrs. L. And who was she? a female with her husband taking charge of a business for a very old patient of mine, and, as her services were important, he sent for me, in the first instance, to ascertain how long it was probable she would be unfit for her duty. You know how I acted in regard to the advice I gave, but you have not been told that mine was a gratuitous visit, and that I refused to see her again, almost without comment, when I understood she had a medical attendant in the neighbourhood; I, therefore, heard nothing of her for twelve days, when I received a note from her, or her husband, requesting me to take charge of the case, as Mr. Smith was no longer in attendance, for reasons given in my former letter. Had he inquired into my conduct he would have found it as here stated, and would have discovered there was no great want of etiquette on my part, in discharging the matter giving so much pain, and which, he says, she would not allow him to do: therefore I did not differ from him in opinion, till he showed great want of determination, and had he been wise would have been silent, instead of attacking me for unprofessional conduct, and causing much exposure to himself; or had he requested me to see his patient with him, I should have been happy to have done so, for nothing gives me more pleasure than meeting any class of my respectable medical brethren in interesting cases, and ere long I trust *all* qualified practitioners will be called in consultation without that jealousy and punctilio which is now felt.

Speaking of etiquette, what do we not see daily, physicians taking charge of surgical cases, and surgeons medical ones, without meeting any one? Remedy this, and the profession will have cause to speak well of THE LANCET. Your obedient servant, &c.,

MATTHIAS ROWE.

24, Woburn-place, July 14, 1840.

MR. SMITH'S REPLY TO MR. ROWE.

To the Editor of THE LANCET.

SIR:—Mr. Rowe, in his answer to my charge of breach of professional etiquette, has insinuated "that I was not in a state likely to find out where to make an incision." There is no misunderstanding this allusion; had it been true, it would bear no relation to my charge against him, and its introduction is characteristically mean and vicious. Fortunately, it is a calumny easily disproved, as I met Mr. Smith, surgeon, of Dowgate-hill, at my house, on my return from paying Mrs. L. the *identical visit* referred to in Mr. Rowe's insinuation, and from thence proceeded to the residence of my patient, Mr. Vincent Sells, of Foxley-road, Kennington, letters from both of whom I subjoin. Mr. Rowe states, that on the 25th of June he opened an abscess which I had *unsuccessfully* attempted; and that I was *discarded* (to use his own courteous expression) in consequence. The facts are, that the breasts having several abscesses, I opened that to which she most referred the seat of pain (from which matter discharged), on the evening of Sunday the 21st, and continued my attendance until Friday the 26th, when being informed, on paying my visit, that Mr. Rowe had been sent for, I refused to meet him in consequence of his unprofessional behaviour, and myself declined farther attendance on Mrs. L.

Having already stated, that my advice in this case had been altogether over-ruled by the strong prejudices of the patient, I feel that it would be useless to occupy your valuable columns with a disquisition on the best mode of treating a suppurating breast. I have the honour to remain, Sir, your most obedient servant,

WILLIAM HENRY SMITH.

5, Marlborough-place, Walworth,
July 14, 1840.

*** The letters of which Mr. Smith speaks in the above statement we have received, but it is needless to publish them. Both writers most earnestly affirm that there was no trace of inebriety in Mr. Smith's appearance, or conversation, on the evening of June 21. Mr. Sells observes in his letter to Mr. Smith, had it been so "I certainly should not have allowed you to operate on me." As the case has now been fairly laid before the profession, we trust that both parties will see the necessity, if not the policy, of ceasing farther hostilities. Such dissensions are not worthy of educated men, and they serve to injure, not less the whole profession than the disputants themselves, in the eyes of the public.

MEDICO-BOTANICAL CRITICISMS.

To the Editor of THE LANCET.

SIR:—I am sorry to be so troublesome to Dr. Sigmond, as again to call his attention to some assertions in his published papers; but, as he has stated some opinions which I consider to be peculiar to himself, he must excuse me if, in the pursuit of truth, I request that he will inform the profession what are the grounds of his belief. Dr. Sigmond, in a paper in the "Transactions" of the Royal Medico-Botanical Society, and also in a lecture published in THE LANCET of Sept. 1, 1838, asserts that the dissertation in the "Amenitates Academicæ," entitled "Odores Medicamentorum," is by a pupil of Linnæus, named Wahlin; and that another dissertation on "Medicamenta Graveolentia" was written by Fragræus. Now I never knew any one but Dr. Sigmond to entertain a doubt that these "Dissertationes Academicæ," which are well known to all persons who have studied the great master Linnæus, are the genuine works of Linnæus himself, as much so as the "Termini Botanici Potus Theæ," the "Vires Plantarum," and all the rest. If the Doctor will turn to the "Philosophia Botanica" of Linnæus, under aphorism 362, he will find there, what he has attributed to Wahlin, respecting the seven classes of odoriferous plants.

Apropos; aphorism—I should like to know why Dr. Sigmond calls the aphorisms of Linnæus, both in his lecture and in the "Transactions" of the Royal Medico-Botanical Society, "Postulatums." When I read Euclid, many years ago, I learned that a postulate was something assumed, without proof. I believe that Dr. Sigmond is one of the very few who introduce postulates into the inductive sciences. Linnæus himself says, "In scientia naturali principia veritatis observationibus confirmari debent." I am, Sir, your obedient servant,

JOSEPH HOULTON.

London, July 14, 1840.

RESTRAINT OF LUNATICS.

BELFAST DISTRICT ASYLUM.

IT has been asserted, of late, by persons of eminence, and, as it is believed, of practical experience, that in no instance need personal restraint be had recourse to, even with the most violent of maniacs; but that a system of "surveillance," carried out by an additional staff of attendants, will answer all the purposes of physical restraint. In two Asylums, in particular, viz., the Middlesex County Asylum, at Hanwell, and the Lincoln, this system has been put into operation, and found, it is stated, by the Superintendents thereof, viz., Dr. Conolly and Sur-

geon Hill, to be productive of the best effects. On the other hand, equally high authority is against the total abolition of restraint, so far as its humanity is in question, but not so as to its practicability. Dr. Corsellis, Director of the West York Pauper Asylum, in his Annual Report of this Institution for the present year, thus expresses his opinion on the subject:—"Many years' careful attention to this subject has led to the conviction, that a mild and judicious restraint can never be supplied by any 'surveillance.'" In the last Report of the Dundee Royal Asylum for Lunatics—an institution established as well for the wealthy as the poor insane—the following observation on this important matter is to be found:—"Even allowing the practicability of mere surveillance, whether it be humane and desirable, is a question that appears very problematical." Such are the opinions of the heads of two establishments, many years in operation, as to the inutility of the total abolition of restraint—opinions in which the Manager of this Asylum fully agrees.—*Abstract from Dr. Stewart's Report*, June, 1840.

The expenditure for the year ending April 1, 1840, in the Belfast District Asylum for Lunatic Poor, has been £3719; making the average annual cost of each patient £16 13s. 4d., every charge of management included.

ST. GEORGE'S HOSPITAL.

We have received a note from a correspondent, signing himself "A Surgical Pupil of the above Hospital," complaining of neglect of duty on the part of the medical officers, in the following remarks. To which we are disposed to inquire with surprise, Can it be so?—

"At St. George's Hospital the good plan adopted in most of the London hospitals, of writing on the card placed over each bed the description of injury or disease under which the patient is labouring, is not pursued. This neglect acts as a great hindrance to the students' professional advancement, and, unless the surgeons happen to give that information (which, by-the-bye, is very seldom thought necessary), the pupils are, in a great number of cases, ignorant of what the different remedies are prescribed for."

In such a case as this, the students, one and all, should petition the medical officers to give directions for the carrying into effect of an arrangement so obviously important to the pupils. It is not likely that they would refuse so reasonable a request.

ANATOMY OF THE MEDULLA OBLONGATA.

At the Surgical Society of Ireland, May 9, 1840, Dr. Power said he would exhibit a very remarkable preparation which he had accidentally discovered in the Museum of the Richmond Hospital. On examining the preparation, he was struck with the appearance presented by the medulla oblongata. The fact he was about to mention was alluded to by Mr. Solly, who deserved the credit of having first particularly pointed it out. In the one hundred and fifty-fifth page of Mr. Solly's work, speaking of the anterior columns, or motory tracts of the spinal cord, he makes the following observations:—"Of the fibres, which run from the antero-lateral columns to the cerebellum, there are evidently two sets, one superficial and one deep. The superficial may again be divided into two sets: the first cross the surface of the cord, *immediately below the corpus olivare, and may generally be seen without dissection;* they are more distinct in the sheep, bullock, and horse, than in man, in whom they form a very thin layer, emanating from the corpora pyramidalia; and I have no doubt, that they actually decussate with their fellows of the opposite side, forming, in fact, part of the apparatus of decussation, though I have not yet positively ascertained the fact." In his sixth plate (fig. 1) he has given a representation of these superficial fibres, which pass from the corpora pyramidalia, to become continued with the productions of the corpora restiformia into the cerebellum. The preparation exhibited by Dr. Power, showed these fibres of communication in a most satisfactory manner, and much more distinctly than did Mr. Solly's plate. In this preparation the corpus pyramidale of the left side was seen to consist of two distinct bundles of fibres, an anterior or superficial, and a posterior or deep set. The superficial was perfectly distinct from the deep set, and formed a well-marked flattened band about a quarter of an inch in breadth, which first ran downwards, and then turning underneath the corpus olivare, became continuous with the corpus restiforme; thus describing an arch, the concavity of which embraced the inferior extremity of the corpus olivare; the deep set followed on its direct course through the pons Varolii. Thus the usual prominent appearance of the corpus pyramidale on that side seemed to be altogether lost. These points were exceedingly well marked in the preparation. Mr. Solly states, that the arrangement is a common one, and always discoverable, even without dissection.—*Reported in Dublin Medical Press*, July 1.

UNIVERSITY OF LONDON.

List of Candidates who passed the First Examination for the Degree of Bachelor of Medicine, July, 1840.

First Division.

BARNES, ROBERT, Medical School, adjoining St. George's Hospital.
BARTLEY, ROBERT TROUT HAWLEY, Bristol Medical School.
BRUSH, JOHN RAMSAY, St. Bartholomew's Hospital.
BUCKNILL, JOHN CHARLES, University College
CAREY, JOHN, Talbot Dispensary, Dublin.
CARLILL, JOHN BURFORD, University College
COOPER, HENRY, University College and Middlesex Hospital.
GOODEVE, EDWARD, Bristol Medical School.
HEATON, JOHN DEAKIN, University College and Leeds.
HUMPHRY, GEORGE MURRAY, St. Bartholomew's Hospital.
MILLER, WILLIAM ALLEN, King's College.
NEVINS, JOHN BIRKBECK, Leeds.
O'MEARA, THOMAS, Mercers' Hospital and Peter-street, Dublin.
PARKES, EDMUND, University College.
POTTER, JOHN, University College.
POWELL, ROBERT H., Digges-street, Dublin.
SEWELL, CHARLES BRODIE, University Coll.
STRANG, JOHN DOUGLAS, University College.
UNWIN, DAVID, University College.
WADDY, JONATHAN MASON, St. Thomas's Hospital and Webb-street.
WAY, WILLIAM, University College.
WING, EDWIN, School of Physic in Ireland.

Second Division.

BARNETT, ADOLPHUS, London Hospital.
BATESON, HENRY, Guy's Hospital.
CARPENTER, ANTHONY FRENCH, School of Physic in Ireland.
DODD, ROBERT PHIPPS, King's College.
DUNN, JOHN TRAVIS, Leeds and Dublin.
FULFORD, CHARLES, Royal School of Medicine, Birmingham.
GOODFELLOW, STEPHEN JENNINGS, St. Bartholomew's Hospital.
HAMILTON, EDWARD, University College.
PADDON, JOHN, University College.
POWELL, JAMES, University College.
RAYNER, WILLIAM, University College.
RIDGWAY, ARCHIBALD R., London Hospital.
SEWELL, ROBERT RUSSELL, University College.
SMITH, WILLIAM TYLER, Bristol Medical School.
SPACKMAN, FREDERICK ROBERT, Sydenham College and Middlesex Hospital.
WILLIAMS, THOMAS, Guy's Hospital.

We have much pleasure in stating, that to Mr. Edmund Parkes, of University College, was adjudged, in the prize examination, two exhibitions of £30 each for two years,—one in anatomy and physiology and one in chemistry,—and three gold medals, one in anatomy and physiology, one in chemistry, and one in materia medica and pharmaceutical chemistry.

ON THE ORGAN OF THE "LOVE OF THE PAST."

To the Editor of THE LANCET.

SIR:—Many facts have been adduced to show, that the portion of brain between the upper part of Ideality and the front of Cautiousness is the seat of a distinct organ. Mr. George Combe considers, that its special function is to manifest the feeling of sublimity, and cites several cases in support of his opinion. But with this opinion I disagree; for not only have I seen this portion well developed in persons who did not possess any sense of sublimity, but I also conceive sublimity to be a compound feeling, the produce of Wonder and Ideality,—the former producing a sense of immeasurable vastness, and the latter superadding a pervading though undefined beauty. I have also met with numerous cases, which induce me to consider that this organ disposes to cherish past occurrences, and to reverence the relics of bygone times. Thus, in the heads of antiquarians, I have found this organ largely developed, and that in individuals who have displayed no sense of sublimity, their only poetical feeling being a tendency to linger over past scenes and their memorials. Thus, also in persons who are continually reverting to the days of childhood with the purest delight, some of whom have had, indeed, but little to cherish, in the opinion of others, but who have yet managed to elicit a good from the apparent ill, I have found this region largely developed. In many of these cases, Veneration, which some phrenologists consider to be the source of the feeling, was deficient. The feeling assumes different shapes, according to the general development; sometimes it appears as love of the past generally; sometimes in love of old writers, old coins, or old customs and institutions.

In confirmation of my opinion, I appeal to the busts of Austin, Robert Owen, Ram Mohun Roy, and Joseph Hume; in all of whom the organ is deficient, as well as the feeling which I ascribe to it; and, in the converse cases, I refer to the busts of Dr. Parr, the lover of old authors, and to Walter Scott, whose greatest delight was to revivify the past, and make us acquainted with its feelings and interests; in both of whom the organ is largely developed. In the busts of murderers and knaves it is deficient, like all those sentiments which tend to prevent present sensual gratification. For literary illustrations, I may refer to the writings of Wordsworth and Lambe, and to Leigh Hunt and Dickens, in the latter of whom it is thrown out into bold outline, by a manifest appreciation of the present.

From an analysis of the various facts which I have observed—and I have seen at

least 200 confirmatory facts, either in busts or living originals—I consider that this organ serves to check the tendency of man to undue progression, and *that*, by imparting an instinctive clinging to the past. When predominating the "wisdom of our ancestors" becomes a substantive argument against every new theory, the assumption being, that, if good, it would have been previously discovered; but, when deficient, there is a tendency to overlook or disregard the lessons derivable from the experience of the past.

I am aware that the preceding remarks may not appear, at the first glance, to be strictly within the limits of a medical publication; but when it is considered that phrenology, by indicating the cerebral origin of insanity, has done much in assisting the physician to eradicate the disease, it will become obvious that to extend our knowledge of organology is to increase our power of grappling with the direful malady; and thus the intimate relation which subsists between phrenological discovery and the medical art becomes apparent. I am, Sir, yours truly,

E. J. Hytche.

Bartlett's-buildings, Holborn.

HUNTER'S DISCOVERIES.

John Hunter made the interesting discovery, that the vessels of the embryo of a red-blooded animal circulate a colourless fluid previously to the appearance of the red corpuscules, thus pointing to another link of resemblance between the embryos of the higher animals and the lower animal forms. He observes, in his work on the blood, "The red globules seem to be formed later in life than the other two constituents; for we see, while the chick is in the egg, the heart beating; and it thus contains a transparent fluid before any red globules are formed, which fluid we may suppose to be serum or lymph."

MORE SQUINTING QUACKERY.

In referring to a notice in the "Edinburgh Advertiser," of this day, Dr. Henry Johnston has to add, that he has just returned from Berlin, where, under Dr. Dieffenbach, he acquired the important art of *operating* on the *eye*, which in the London and Dublin Hospitals has now proved perfectly effectual for the cure of that painful drawback to personal beauty.

Parents or guardians applying to him at Jessfield, Newhaven, may have every information.

TO CORRESPONDENTS.

T. C. C.—There is neither one nor the other of which any person can habitually avail himself, unless he be a member of a particular society having its own library.

The letter of *Sir Richard Dobson* shall be inserted next week. Our pages were full at the time it arrived.

One of the Non-seeing, next week.

A Constant Reader (Leicester).—There is no end of these disgusting circulars, nor any remedy for them, but an increase of common sense and intelligence; but they may almost be matched by some *professional* advertisements.

The cases forwarded by *Mr. Lucas*, next week; though we may obtain leave to omit the third, since this operation having now become a standard operation in surgery, and our pages containing abundant evidence of its nature and success, only cases which add new facts or views on the subject need be published.

S. E. R. S.—The hospital is attached to the College, and bears its name. The wards contain at all times patients enough to teach any student clinical medicine.

Our correspondent at Newcastle's *obstetric papers*, do not present sufficient novelty or interest to occupy a place in our Journal. When any case of practical importance comes under his notice, we will willingly afford him space for its insertion.

We are unable to find room for the letter of *Mr. Chippendale* to Mr. Gompertz, whose statements did not appear in this Journal. Not half-a-dozen of our readers can have seen Mr. G.'s communication.

Mr. Benjamin Jacobs, of Jermyn-street, in a note to the Editor, objects to the statement of Mr. Bennett Lucas, in his recent letter on the operation for squinting, that he (Mr. Jacobs) was cured by the treatment of Mr. Lucas, "who," says Mr. Jacob, "has seen me since I had undergone a second operation at the hands of Mr. Liston. Having in the course of my business to see Mr. Cameron, the Marquis of Anglesey's surgeon, I, on his noticing the inflamed appearance of my eye, told him of the operation, and at his suggestion called upon Mr. Liston, where, to my great astonishment, I learnt, after having kept my time for six or seven days, and with the almost daily assurances of Mr. Lucas of the entire success of his treatment, that I still laboured under the disease, and the pain and inconvenience attendant on the inflamed state of the eye. Mr. Liston having kindly promised to endeavour to cure me, after I had somewhat recovered from my last operation, I waited again upon him in a few days, and had the satisfaction of leaving him perfectly cured."

Showing the No. of Deaths from all Causes, Registered in the 5 Weeks, ending Saturday, July 4, 1840.

Causes of Death.	May	June.				Weekly Av. 1838, (corrected.)
	31 to Jun. 6	7 to 13	14 to 20	21 to 27	28 to Jul. 4	
Small-Pox	10	22	11	12	18	76
Measles	22	20	33	36	19	12
Scarlatina	33	40	31	39	53	30
Hooping-Cough	28	26	14	21	17	42
Croup	5	9	4	6	8	7
Thrush	4	3	8	11	9	6
Diarrhœa	7	9	4	8	10	8
Dysentery	2	1	1	2	....	2
Cholera	....	1	....	....	....	.3
Influenza	1	2	1	1	3	1
Typhus	21	23	19	23	24	82
Erysipelas	6	5	6	7	4	8
Syphilis	....	....	....	1	....	1
Hydrophobia	....	....	1	....	....	.2
TOTAL	139	161	133	167	163	276
Cephalitis	15	17	10	11	19	11
Hydrocephalus	30	29	32	31	30	35
Apoplexy	12	8	14	17	17	20
Paralysis	12	8	15	9	13	15
Convulsions	65	54	62	67	58	68
Epilepsy	3	4	1	5	8	4
Insanity	....	2	....	1	3	1
Delirium Tremens	3	3	....	7	2	1
Dis. of Brain, &c.	6	10	5	10	8	6
TOTAL	146	135	139	157	157	161
Quinsey	....	....	....	1	4	2
Bronchitis	7	8	8	3	7	9
Pleurisy	3	1	2	....	2	2
Pneumonia	49	54	54	54	44	74
Hydrothorax	6	3	4	4	....	6
Asthma	10	10	8	8	9	29
Consumption	137	128	147	145	136	152
Dis. of Lungs, &c.	11	13	8	9	5	11
TOTAL	223	217	231	224	207	285
Pericarditis	1	1	....	....	2	.3
Aneurism	2	1	2	1	2	.5
Dis. of Heart, &c.	16	18	16	16	14	15
TOTAL	19	20	18	17	18	16
Teething	12	17	17	11	22	15
Gastri.—Enteritis	20	22	19	20	19	18
Peritonitis	1	....	....	3	2	1
Tabes Mesenterica	....	5	7	4	5	3
Ascites	2	....	....	1	....	.3
Ulceration	1	3	....	....	2	1
Hernia	2	2	2	2	....	2
Colic or Ileus	1	2	1	....	1	4
Dis. of Stomach	5	2	4	3	5	4
Hepatitis	1	....	....	1	1	1
Jaundice	3	1	3	2	1	2
Dis. of Liver, &c.	6	10	7	6	6	8
TOTAL	54	64	60	53	64	59
Nephritis	...	1	1	1	....	.5
Diabetes	....	....	....	....	....	.4
Stone	....	....	....	....	....	.4
Stricture	....	....	....	....	....	.6
Dis. Kidneys, &c.	4	3	1	4	4	3
TOTAL	4	3	2	5	4	5

Causes of Death.	May	June.				Weekly Av. 1838, (corrected.)
	31 to Jun. 6	7 to 13	14 to 21	21 to 27	28 to Jul. 4	
Childbed	3	3	6	3	5	8
Ovarian Dropsy	....	....	1	....	2	.3
Dis. of Uterus, &c.	2	1	3	....	2	2
TOTAL	5	6	10	3	9	11
Rheumatism	3	2	3	....	2	4
Dis. of Joints, &c.	8	4	2	6	5	4
TOTAL	11	6	5	6	7	8
Ulcer	....	1	....	2	2	.4
Fistula	1	....	....	....	....	.4
Dis. of Skin, &c.	....	....	1	....	....	.4
TOTAL	1	1	1	2	2	1
Inflammation	6	1	6	4	3	19
Hæmorrhage	3	3	1	4	1	4
Dropsy	30	35	33	37	35	35
Abscess	6	4	5	2	3	4
Mortification	3	6	2	6	2	4
Scrofula	4	3	5	2	....	1
Carcinoma	3	10	8	6	8	6
Tumour	2	4	2	1	1	1
Gout	1	....	....	....	....	1
Atrophy	11	3	4	12	5	4
Debility	15	20	19	21	18	12
Malformations	2	3	....	1	....	1
Sudden Deaths	16	19	10	14	28	13
TOTAL	104	111	95	110	104	103
Old Age	36	36	54	48	41	82
Intemperance	....	....	2	....	2	.4
Privation	1	....	....	....	2	.6
Violent Deaths	21	36	19	28	22	27
TOTAL	22	36	21	28	26	28
Causes not Spec.	1	3	2	2	6	13
Deaths, all Causes	785	819	771	824	831	1051
No. of Week	22	23	24	25	26	....

1840.	Ages.		
	0 to 15	15 to 60	60 & upwards
May 31st to June 6th	372	271	142
June 7th to 13th	382	300	133
„ 14th to 20th	374	262	135
„ 21st to 27th	409	283	131
„ 27th to July 4th	408	281	141
Weekly Average, 1838	484	365	199

	Estimated Pop. 1840.	May 31 to June 6.	June 7 to 13.	June 14 to 20.	June 21 to 27.	June 28 to July 4.	Weekly Av. 1839.
West Districts	308,921	123	125	110	144	109	162
North Districts	414,458	141	148	139	139	151	193
Central Districts	369,772	160	165	158	174	158	208
East Districts	411,634	174	156	170	170	165	249
South Districts	450,365	189	225	194	197	248	249
	1,955,000	785	819	771	824	831	1,051